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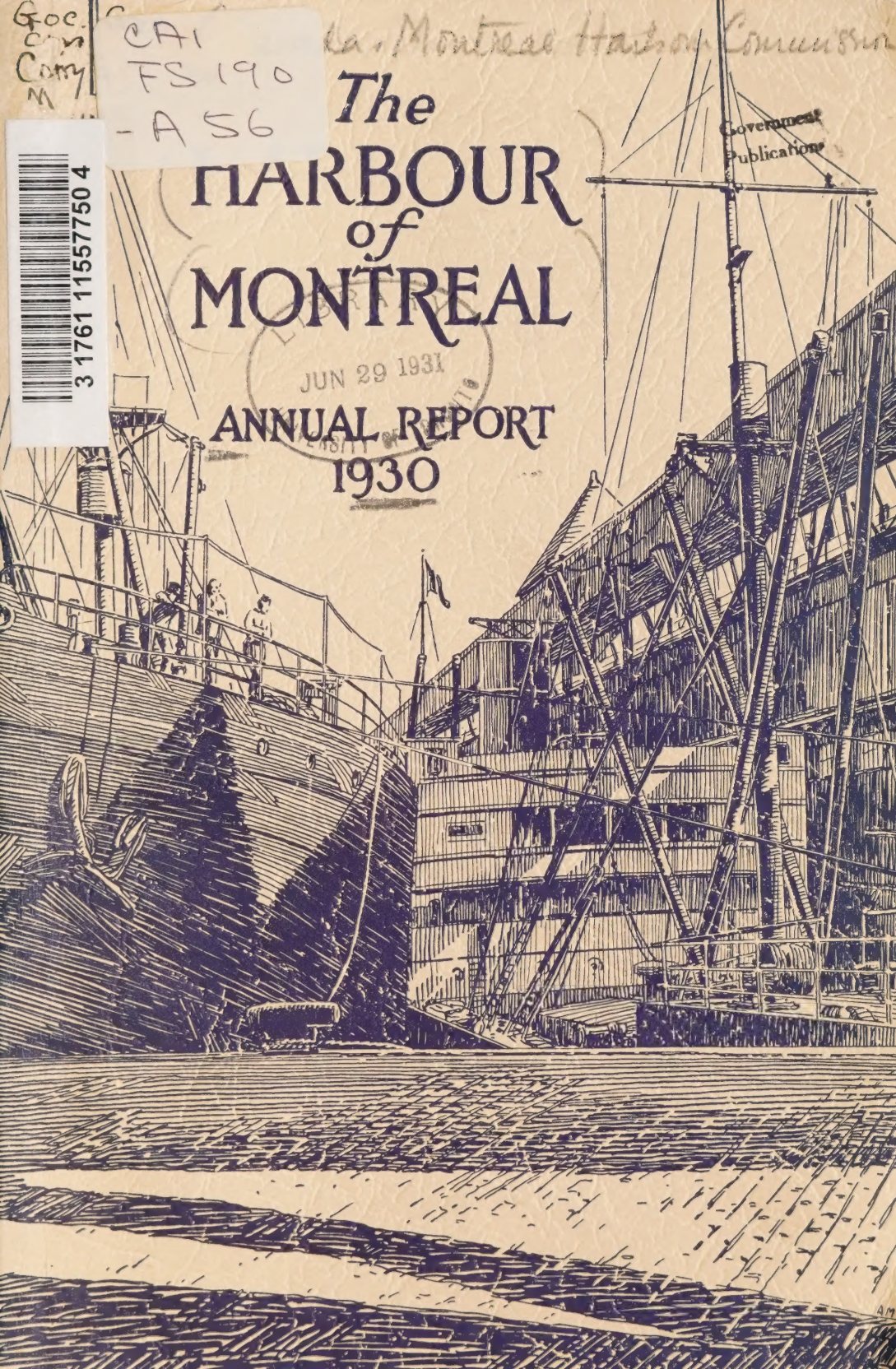
La. Montreal Harbor Commission


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Government
Publications

The HARBOUR of MONTREAL

JUN 29 1931
ANNUAL REPORT
1930





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ANNUAL REPORT
OF THE
Harbour Commissioners
of Montreal

For the Year 1930



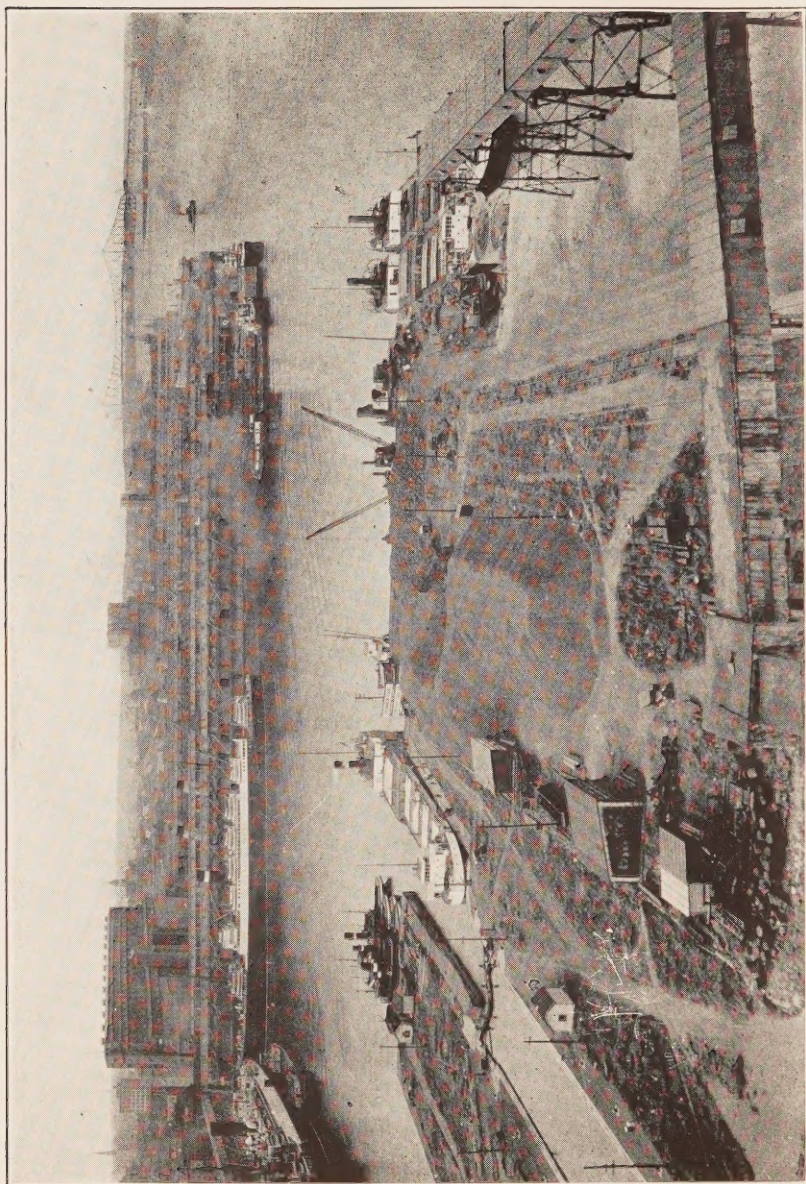
COMMISSIONERS:

J. H. RAINVILLE, President

JOHN C. NEWMAN

LT.-COL. H. J. TRIHEY, K.C.





GENERAL VIEW OF THE PORT

Harbour Commissioners of Montreal

MONTREAL, 1ST APRIL, 1931.

To the Hon. ALFRED DURANLEAU, K.C., M.P.,
Minister of Marine,
Ottawa, Ont.

Sir:—

In compliance with Section 51 of the Commissioners' Act 57-8 Victoria, Chapter 48, the Harbour Commissioners of Montreal herewith respectfully submit their Annual Report of operations for the year ended 31st December, 1930.

We have the honour to be,
Sir,

Yours very respectfully,

J. H. RAINVILLE, President.
JOHN C. NEWMAN,
H. J. TRIHEY,
Harbour Commissioners.

IN PRESENTING their Annual Report for the year Nineteen hundred and thirty, the Harbour Commissioners of Montreal take this opportunity of recording their appreciation of the unfailing support and courteous co-operation of the Minister of Marine, the Hon. Alfred Duranleau, and his Deputy Minister, and the other officers of the Department at Ottawa, whose kindly interest has been of very material assistance to them in the solving of the many problems which they were called upon to deal with during the year.

Harbour Commissioners of Montreal

ANNUAL REPORT

1930

WHEAT CONSUMPTION VERSUS MEAT PRODUCTION

The statistical tables to be found elsewhere in this Annual Report giving details of the export grain movement from Montreal during 1930, reveal the continuance of the depression in this trade movement which was so noticeable in 1929. Reasons for the existence of this depression are not difficult of analysis, despite the conflicting and various theories which have been advanced for the partial failure, in the past two years, of the Canadian grain marketing machine.

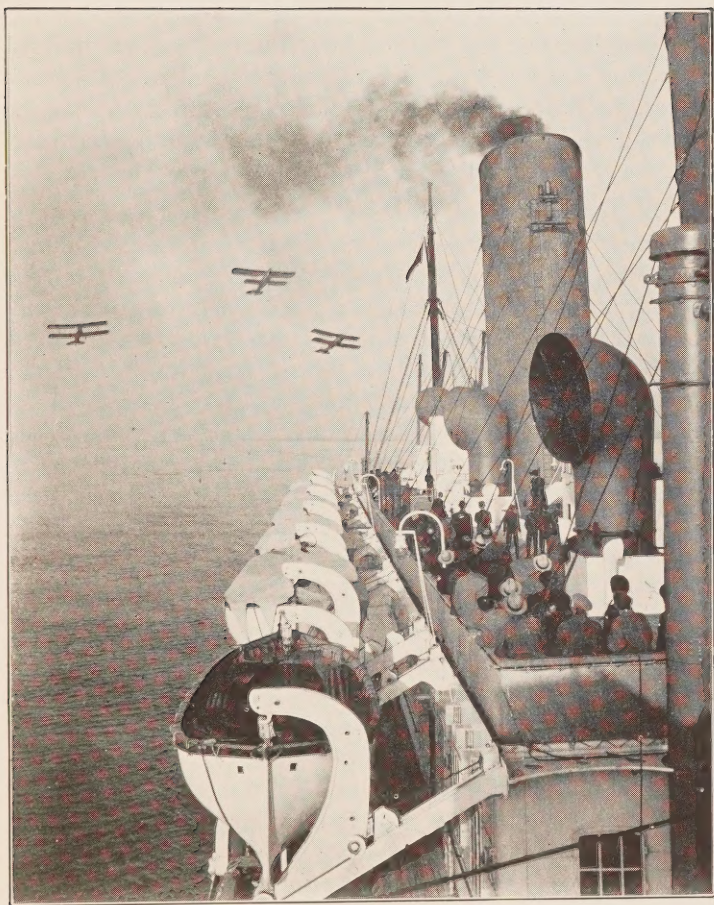
An abundant crop, and by the irony of fate, one which resulted in unusually high grades, ample facilities for storage of the crop, adequate railway equipment to move grain to the Head of the Lakes, a commodious fleet ready with steam up to move the crop to Montreal, lower prices for wheat and coarse grains than have prevailed for many years, the customary banking and credit facilities ready to be provided, coupled with an organization at Montreal which can take care of the export handling of two hundred and fifty million bushels of grain during the season of navigation, all resulted in a total export figure which would have been considered fairly creditable in pre-War years.

World consumption of wheat has not decreased. The obvious answer, therefore, is world over-production. The Argentine has had a succession of unusually heavy crop years,

many European countries have encouraged domestic production of wheat by tariffs on imports and other legislative restrictions against the use of foreign wheat, and Russia has re-entered the picture, after many years' absence, as an important exporter of grain. Canadian wheat, because of its excellent quality, will undoubtedly always command a certain market, but the pressure of intense competition has made itself unmistakably felt, not only in export demand as to quantity, but as to price.

Looking at the matter from a national point of view, the observer is forced to accept two conclusions. Continued overproduction of wheat and coarse grains by the grain exporting countries must lead to demoralization of grain markets, unless increased consumption follows. The Orient offers a new market of practically unlimited field, but the depreciation of silver currency in China and Japan makes it virtually impossible for consumers in those countries to purchase wheat at what has been for several years the normal price range for this commodity. The stabilization of Oriental currency, coupled with an aggressive sales policy in Oriental countries, would result in a ready and enormous market for Canadian wheat. Such a development would have no direct bearing on the trade of the Port of Montreal, inasmuch as exports from Canada to the Orient would logically flow outwards through Canada's Pacific coast ports, but the country as a whole would realize tangible advantages.

In this connection, it is interesting to speculate on the theory advanced by certain grain marketing experts, who are opposed to the attempt to introduce wheat to the Oriental market, on the ground that China, with its enormous acreage, and fertile soil, would soon become an exporting country, and would thus provide increased competition for Canada, and the other wheat producing countries, and by reason of its low-priced labour, might well be in a position to undersell Canadian wheat. But students of this situation maintain, and plausibly, that China and Japan could not become wheat exporting countries for very many years, if at all, for the reason



CANADIAN TRANS-ATLANTIC FLIER BEING WELCOMED
ON HIS RETURN TO MONTREAL

that wheat is best produced under conditions of extensive farming, on farms of 100 acres or more. Since the average size of farms in China and Japan is three or four acres, intensive cultivation is necessary, which makes rice and millet more suitable, because of the higher returns per acre derived from these crops. With the cessation of civil war in China, the restoration to a normal basis of silver currency, and the extension and creation of railway and grain handling facilities, experts believe that the market for Canadian wheat in the Orient could be extended probably ten-fold.

The second conclusion is one which more directly affects the export business of the Harbour of Montreal. It is that the concentration in the Canadian West of production energies towards the raising of a single crop, viz., wheat, has outlived its usefulness. In a public pronouncement of singular importance, Mr. E. W. Beatty, President and Chairman of the Canadian Pacific Railway Company, speaking before the Winnipeg Board of Trade on the 16th February, 1931, gave the Canadian people the details about the formation and policy of the newly-chartered Dominion Agricultural Credit Corporation.

In the course of his address, which was broadcast by radio throughout the length and breadth of Canada, Mr. Beatty had several interesting things to say about the necessity for the development of a more extensive livestock production in the Canadian West. He pointed out that wheat, because of its importance in world trade, had a tendency to monopolize the public attention, to the exclusion of the equally important coarse grains, barley, rye and oats. The plan of the Agricultural Credit Corporation was to make possible the disposal of the carry-over of coarse grains by a diversified livestock production.

"You can readily understand," said Mr. Beatty, in a subsequent address at Toronto, "that the agricultural credit plan recently suggested by myself and supported by the Government is not a panacea that dropped out of the blue sky, but is in line with long established policy and belief, that diversi-

fied farming should be practised in the West wherever possible. Wheat was the magnet which drew the majority of settlers to the West. So long as harvests were good and the price of wheat kept up, most people were content, except the prophets, who pointed out that this kind of farming was more like mining than good farming, and that safety could be secured only by a great diversity of farm produce, and that every farmer ought to be in a position to live off his own land.

"Wheat will for many years, perhaps always, remain the staple crop of the West. There are large areas which lack sufficient water to be suitable for raising stock. The soil is peculiarly adapted for milling wheat, and so long as the human race inclines to the wheaten loaf, so long can Canadian wheat command a world market. The agricultural credits plan is not intended to transform the West into one vast stock farm—it is merely a method of providing capital on easy terms, to enable approved settlers who have suitable land to feed their less marketable grain to stock, and to depend more on their own farms to produce what they themselves and the people of Canada depend upon for necessary food."

MEAT AND LIVESTOCK EXPORTS

The policy indicated by Mr. Beatty raises a question of the utmost importance to the Harbour of Montreal. The British market for Canadian cattle and cured meats is a receptive and a valuable one. The development of a production method by which a steady flow of export meats and livestock would be assured, on the basis suggested in the foregoing pronouncement, would yield definite and tangible cash returns to the Western producer, the transportation agencies and the Port of Montreal. Since 1923 the export of cured meats and fresh or frozen meats from Montreal has been steadily decreasing. From 1923 to 1926 cattle shipments from Montreal were an important feature of the Port's trade, but in 1927, 1928 and 1929 not a single beast was shipped. During these years surplus cattle stocks were shipped to the United States,

because of the slightly better prices prevailing in that market, but the increased tariff recently imposed by that country on imports of Canadian cattle has again turned the flow of this commodity overseas. In 1930 the export of Canadian cattle to Great Britain was resumed on a small scale, but it is expected that next season of navigation will see a resumption of this business on a satisfactory scale.

The following statement gives quantities of exports of meats and cattle for the years from 1923 to 1930 inclusive:—

	MEATS		CATTLE
	Cured (tons)	Fresh or Frozen (tons)	(number)
1923.....	129,135	4,749	29,536
1924.....	102,444	3,970	44,219
1925.....	192,084	6,893	54,867
1926.....	68,542	3,800	30,582
1927.....	63,191	2,013	none
1928.....	56,449	1,086	none
1929.....	55,854	1,009	none
1930.....	37,848	1,653	4,829

INAUGURATION

In accordance with long established precedent, following the defeat of the Liberal Administration at Ottawa in the general election of 1930, the members of the Board of Harbour Commissioners of Montreal, Hon. Senator W. L. McDougald, President, Dr. Milton L. Hersey and Mr. Alfred Lambert, forwarded their resignations to the leader of the new Government, Rt. Hon. R. B. Bennett, Prime Minister of Canada.

By Order-in-Council P.C. 2071, approved by His Excellency the Governor General on the 6th September, 1930, the foregoing resignations were accepted, and a new Board of Harbour Commissioners of Montreal was appointed, as follows:—

Mr. Joseph H. Rainville, President

Mr. John Caverhill Newman, Commissioner

Lt.-Col. H. J. Trihey, K.C., Commissioner

On the 10th September, 1930, the Secretary of the Harbour Commissioners administered the oath of office to the members of the present Board in the Boardroom of the Head Office of the Harbour Commissioners of Montreal.

Former President Senator McDougald, and former Commissioners Dr. Hersey and Mr. Lambert, as well as the senior officers of the Port were present, and the customary courtesies were exchanged.

CENTENARY OF THE HARBOUR COMMISSIONERS OF MONTREAL

On May 8th, 1830, the Hon. George Moffatt, Chairman, Mr. Jules Quesnel and Capt. R. S. Piper, R.E., were appointed Commissioners under the great seal of the Province of Lower Canada, to carry into effect an Act of the Provincial Legislature, 10 and 11 George IV, Chap. 28, "An Act to provide for the improvement and enlargement of the Harbour of Montreal."

Thus, on May 8th, 1930, the Harbour Commissioners of Montreal had been in continued existence as a corporate body for one hundred years.

To signalize this event, and to give due emphasis to the remarkable growth which has taken place since that time, the Harbour Commissioners of Montreal were hosts at a luncheon on May 24th, 1930, at the Ritz Carlton Hotel, at which representatives of Church and State, the Army, the Judiciary, and the Medical Profession, and leaders of all walks of life in Canada and Montreal assembled to do honour to the first Harbour of the Dominion.

The speakers at this function, who included Archbishop Gauthier, Bishop Farthing, Hon. Fernand Rinfret, then Secretary of State, representing the Prime Minister of Canada, Hon. Honore Mercier, representing the Province, Alderman Weldon, representing the City of Montreal, and Mr. Grant Hall, representing the Canadian Pacific Railway and the transportation interests in general, as well as Senator W. L. McDougald, then President of the Harbour Commissioners of Montreal, referred in glowing phrase to the extraordinary development which the century that had elapsed, and more particularly the previous twenty-five years, had witnessed in the expansion of the trade of the Port of Montreal. Descriptions of the appearance of the Harbour in 1830 were quoted from, details of the unimportance of Montreal as a Harbour and as a city a hundred years previously were enumerated, and in fact, the professional and commercial life of the Dominion joined with the Harbour Board and the Port



EARLY DAYS IN THE HARBOUR

officials in a historic and noteworthy chorus of acclaim for an institution which in a few years has become one of the outstanding undertakings of its kind in the world.



THE YEAR'S ACTIVITIES

The business of the Harbour of Montreal, in common with every other branch of commercial activity in Canada, and, indeed, on the Continent, was seriously affected by the world-wide business depression which lasted throughout the entire year of 1930. Grain exports fell slightly below the unsatisfactory figure reached in 1929, general exports decreased, ships and shipping tonnage were lower than for several years, railway traffic was less than in the previous year, and the tonnage of domestic merchandise also recorded a decrease. Revenue, in consequence, failed to meet expenditures by a considerable margin. The most satisfactory showing was made by the import tonnage, which reached a new high figure, largely due to the considerable increase which was recorded in coal imports.

Ocean freight business experienced an unsettled year, with bookings on an unusually meagre scale, and at unprofitable rates. Passenger carryings were satisfactory, and the excellent schedules maintained by the ocean companies were not unduly curtailed. Inland steamship business was affected by the continued sluggishness in outward grain movement, and several of the companies engaged in this trade were forced to lay up a portion of their tonnage. The total tonnage available for operation on the Port Colborne—Montreal run was more than ample to carry the tremendous tonnage of grain and other freight which moved down the St. Lawrence canals in the banner year of 1928, and, consequently, in a year when exports from the Port of Montreal were less than half the figure for 1928, the inland carriers found it difficult to obtain sufficient freights to pay their operation costs and overhead expenses.

REVENUE

Income on revenue account in 1930 amounted to \$4,310,935.13, which was smaller than in any year since 1923. This total was made up as follows:—Grain elevator system, \$1,785,922.02; Wharfage rates, \$1,211,167.44; Railway traffic department, \$494,263.05; Rental of Sheds, etc., \$410,682.18;



WINDMILL POINT AND BICKERDIKE BASINS

Rental of Harbour spaces, \$190,290.93; Storage Warehouse, \$160,514.30; Sundry receipts on revenue account, \$56,135.00; and Interest, \$1,960.21.

The decrease in revenue from the previous year amounted to \$867,632.58, including decreases of \$501,487.09 in income from grain elevator system, \$175,938.94 in sundry receipts, \$108,840.32 in revenue from railway traffic department, and \$62,198.91 in revenue from wharfage rates.

The financial statement, which is inserted in another part of this report, shows that \$1,000,000 of debentures were retired during the year, that expenditures on revenue account amounted to \$4,671,454.31, and that there was charged to revenue account the sum of \$528,300.00 for sinking fund reserve, and the sum of \$188,000.00 for reserve for municipal taxes, etc. Interest paid to Government on outstanding debentures amounted to \$2,274,617.13, an increase over the previous year of \$116,843.65. Operation and maintenance in 1930 cost \$2,393,795.79, as compared with \$2,684,020.90 in the previous year. The saving thus effected, viz., \$290,225.11, resulted in part from curtailed operation of the Port facilities, but was also due in great part to the exercise of the most rigid economy.

Expenditure on capital account during the year amounted to \$2,243,677.82, but when credits and adjustments of \$187,027.87 have been allowed for, the total net addition to capital account was \$2,056,649.95.

Yearly revenues of the Harbour Commissioners of Montreal for several years past have been as follows:—

1921	\$2,891,274.42
1922	3,460,810.87
1923	3,721,159.99
1924	4,382,115.25
1925	4,749,100.69
1926	4,632,599.92
1927	5,453,951.56

1928.....	5,589,327.12
1929.....	5,089,561.17
1930.....	4,310,935.13

Ships and Shipping Tonnage

The number of trans-Atlantic ships which arrived in 1930 fell to 826, a decrease of 90 from the previous year, and a decrease of 396 from 1928. Coasting vessels increased slightly, and the number of inland vessels fell from 6,368 in 1929 to 4,255 in 1930. The following statement shows the number and tonnage of ocean vessels which came to the Port in recent years:—

	Number	Net Reg. Tonnage
1923.....	1,082	3,683,720
1924.....	1,223	4,096,332
1925.....	1,255	5,104,313
1926.....	1,421	4,221,730
1927.....	1,610	4,992,486
1928.....	1,607	5,494,062
1929.....	1,283	4,637,800
1930.....	1,197	4,434,589

Tonnage of Merchandise Handled

The total tonnage of imports, exports and domestic merchandise handled through the Port in 1930 fell below the figure for 1929 by approximately 250,000 tons. Imports increased to a new high figure, viz., 3,376,182 tons, due to larger receipts of bulk cargo commodities such as coal, gasoline, corn, wood-pulp, phosphates and molasses, which more than offset a decrease in general cargo imports. Exports fell off by more than 300,000 tons, but the outward movement of automobiles increased from 51,477 tons in 1929 to 104,424 tons in 1930, while flour exports also increased by more than 50,000 tons.

The following statement shows the yearly division and total tonnage of merchandise handled in the past several years:—

	Import tons	Export tons	Domestic tons	Total tons
1923.....	1,421,295	4,270,226	1,815,351	7,506,872
1924.....	1,472,933	5,594,310	1,918,346	8,985,589
1925.....	2,394,311	5,265,151	1,477,819	9,137,281
1926.....	2,028,162	4,549,835	2,632,702	9,210,699
1927.....	2,693,535	6,175,485	3,052,153	11,921,173
1928.....	2,543,685	6,838,108	3,207,333	12,589,126
1929.....	3,256,991	3,418,896	3,260,985	9,936,872
1930.....	3,376,182	3,101,561	3,210,026	9,687,769

Coal Receipts

A new high figure for all time was established by the receipts of coal on the wharves during 1930, viz., 2,563,486 tons. Receipts by water of British anthracite were larger than in any previous year, and amounted to 740,803 tons, as compared with 501,503 tons in 1929. Receipts of Russian anthracite amounted to 200,651 tons. Bituminous coal amounted to 1,544,759 tons, and anthracite coal to 1,018,727 tons.

Classifications of coal receipts during 1930 were as follows:—

Canadian bituminous.....	1,407,345 tons
British anthracite.....	800,954 "
Russian anthracite.....	200,651 "
American bituminous.....	92,299 "
British bituminous.....	45,115 "
German anthracite.....	12,857 "
American anthracite.....	4,265 "

Grain Exports

Deliveries of grain from the elevators fell below the figure for the previous year by about 10,000,000 bushels, viz., to 81,669,864 bushels. Even at this low figure, Montreal continued to hold, by a considerable margin, the leadership amongst grain exporting ports on the North American continent, as the following statement shows:—

	1930	1929
	bus.	bus.
Montreal.....	81,669,864	90,694,208
New York.....	48,717,000	68,895,992
Galveston.....	20,906,000	35,746,057
Baltimore.....	7,099,000	17,600,049
Philadelphia.....	5,283,000	9,419,595
Houston.....	5,031,000	(no report)
New Orleans.....	4,989,000	18,279,799
Boston.....	2,117,000	4,104,479
Portland, Me.....	1,063,000	2,427,655
Newport News.....	712,000	1,623,785
Mobile.....	653,000	1,115,659

Railway Traffic

The operations of the Commissioners' Department of Railway Traffic were affected by the prevailing depression in the transportation world, with the result that the total number of cars handled during the year decreased to 205,082, a reduction from the previous year of 37,885 cars. Particularly noticeable in this branch of the Port's activities was the dwindling to practically the vanishing point, of car-borne grain. In 1930 only 1,710 cars of grain were unloaded at the elevators on the Commissioners' railway lines, the lowest figure in any year since 1912. The yearly average during the decade 1920-1929 had been approximately 17,500 cars of grain, while in the peak year, 1922, the figure had been 28,339. Hereunder are the number of cars handled on the railway system in the past ten years:—

1921.....	143,564 cars
1922.....	200,593 “
1923.....	216,382 “
1924.....	225,377 “
1925.....	251,586 “
1926.....	205,481 “
1927.....	195,853 “

1928.....	240,622 cars
1929.....	242,967 "
1930.....	205,082 "

New Works

Considerable progress was made during the year in the construction of new wharves and the completion of wharves which had been commenced in the previous year. Full details are given in the Engineering Department's report. The most important items of work carried out were:—

- Continuation of reconstruction of King Edward Pier.
- Continuation of reconstruction of Laurier Pier.
- Completion of new industrial wharf at Section 105.
- Extension to Industrial wharf at Section 99.
- Construction of new industrial wharf at Section 106.
- Construction of new deep-water wharf at Montreal East.
- Construction of extension to Shed 9.
- Construction of 5 travelling grain loaders on Sheds 5, 6, 9, 10 and 15.
- Dredging at various points, sewers, tracks, etc., etc.

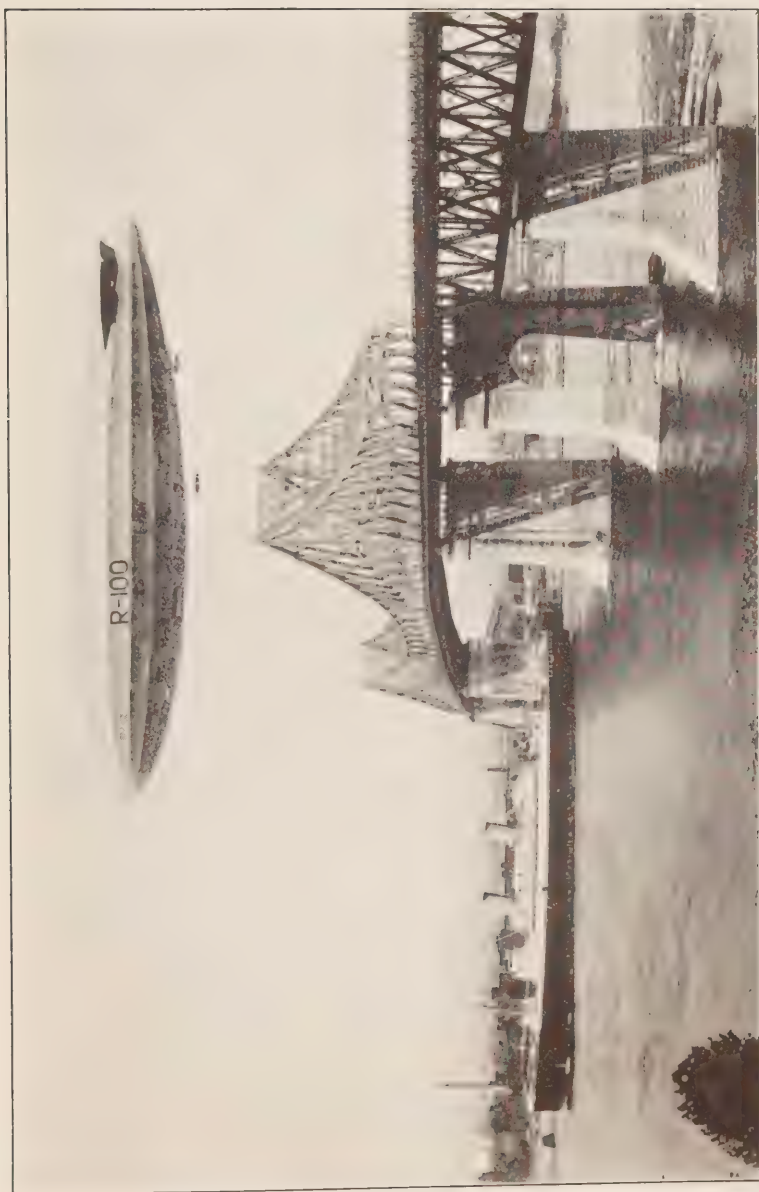
MONTREAL HARBOUR BRIDGE

On May 14th, 1930, the Montreal Harbour Bridge, which had been under construction since 1925, was unofficially opened to the travelling public, and immediately became an important and popular artery of highway transportation to and from the City of Montreal.

On May 24th, 1930, with appropriate ceremonies, the Bridge was blessed and officially opened, the actual act of unveiling of the bronze plaques being performed by the Rt. Hon. W. L. Mackenzie King, then Premier of Canada, by radio from his offices in the Capital, where he was detained by pressure of Parliamentary duties. A representative assembly, including personages prominent in Dominion, Provincial and Civic politics, and graced by the presence of high Church dignitaries, gathered on the Pavilion of the Bridge for the ceremony, and many eulogistic references were made to the magnificence of the structure, the long years of planning and agitation which had preceded its actual commencement, and the architectural and engineering skill which had been utilized in its construction. The completed bridge, as all residents of Montreal are aware, provides a fitting highway link between the Metropolis of Canada and the outer world, and forms a worthy addition to the great bridges which span the River St. Lawrence at various points on its course.

The most severe test of the resources of the new Bridge came during the visit to Canada of the British dirigible, the R-100, in June. While the airship was moored at St. Hubert, traffic across the Bridge was of impressive dimensions, but at no time, even on the busiest days, was the structure taxed to capacity.

As was anticipated, the receipts from tolls during the period from its opening to the end of the year 1930 fell considerably short of the requirements for meeting interest payable to bondholders, and operating costs. The guaranteed contributions from the Province of Quebec and the City of Montreal towards the operating deficit had to be called upon,



AIR, OCEAN AND HIGHWAY TRANSPORTATION

and even then a considerable balance remained to be met by the Dominion Government, in accordance with its guarantee of the Bridge bonds.

Continual negotiations have been carried on by the Commissioners with municipal authorities and others interested in an attempt to provide bus or tramway transportation across the Bridge, to serve the commuting public on the South Shore, and while unforeseen difficulties arose, a tentative arrangement has been consummated at the time of writing which will provide autobus transportation over the Bridge.

Other schemes which it is anticipated will add materially to the Bridge revenues, without increasing the present tolls, are under serious consideration by the Harbour Commissioners, and have to do with the possibilities of development of the Pavilion and St. Helen's Island.

The stand taken by the Harbour Commissioners of Montreal towards the relationship between the Montreal Harbour Bridge and the Harbour of Montreal is similar to that which actuated their predecessors when the Bridge project was first mooted and begun some years ago. The two undertakings are in all respects separate and distinct, one from the other, and must be operated and regarded as two unrelated entities. The Harbour revenues are for the operation of the Port, for the provision of facilities to aid inland and ocean transportation, and cannot be regarded as in any way liable for the operating deficits of the Bridge. The accident of chance which caused the Harbour Commissioners to be entrusted with the building of the Bridge does not affect the situation, and despite the attitude of certain agencies in this matter, the Harbour Commissioners would point out that the Act of Parliament authorizing the construction of the Bridge, which was drafted by their predecessors, and became law, very definitely limits the properties chargeable with any operating deficits on the Bridge to the Bridge structure itself, and Bridge properties.

For these reasons the financial affairs of the Montreal Harbour Bridge have never been included in the Financial Statements of the Harbour Commissioners of Montreal, as published in their Annual Reports.



SHIPPING

Navigation in 1930 opened on April 12th, and closed on December 12th, thus maintaining the average dates for previous years.

The year was far from satisfactory from a shipping viewpoint, and was characterized by severe dullness in export trade, due in large measure to the continued weakness of the export grain market. This was particularly noticeable in tramp ship arrivals, and while liner operators maintained schedules practically corresponding to previous years, the total number of ocean ship arrivals fell to a figure considerably below that for the past eight years.

Import business increased to a new high figure, due to bulk cargo arrivals, mainly coal and ore, but import package freight was smaller than for several years.

Towards the close of the season, general import and export freight business gave indications of improving its position, and generally in November a perceptible change for the better was noticed along the waterfront. A test cargo of manganese ore was unloaded by the Commissioners' equipment in November, in an attempt to show how rapidly and economically this type of work could be carried out. The ocean vessel was unloaded in record time, and the ore re-loaded into lake vessels, and the result surpassed expectations.

An interesting record for rapid loading of grain was set up late in the season. Practically the last vessel to arrive in Port before the winter freeze-up, the S.S. "Michael L. Emberricos," had brought a cargo of coal to Halifax, and was then chartered to load 270,000 bushels of wheat at Montreal. The ship was prepared for loading while coming up from Quebec, and the entire cargo was loaded at Grain Elevator "B" in a single day, the vessel leaving for sea upon the evening of the day upon which it arrived in Port.

The number of trans-Atlantic ships which arrived in 1930 was 826, with net register tonnage of 3,740,884, as compared



SHIPPING IN THE HARBOUR A HUNDRED AND FIFTY YEARS AGO

with 916 ships in 1929 with tonnage of 3,910,679. It is necessary to go back as far as 1921 to find so few trans-Atlantic vessels reaching Port, but the consistent growth in the size of ocean ships since that year is revealed by the fact that in 1921 the tonnage of the 807 vessels which arrived was only 2,598,494. In other words, the average net register tonnage of trans-Atlantic ships trading to Montreal in 1921 was 3,219 tons, while in 1930 it was 4,529 tons.

From the Maritime Provinces and Newfoundland there came 371 ships, having tonnage of 693,705, as compared with 367 ships in 1929, having tonnage of 727,121.

British shipping again supplied the greatest proportion of total ocean arrivals during the year, with 928 vessels, having tonnage of 3,670,505 tons. The number of British ships was 78% of the total, and their tonnage was equal to 82% of the total ocean tonnage. Norway was represented by 106 ships, Italy by 45 and the United States by 34. Greece sent 23 vessels, Sweden 16, Germany 15, Holland 14, and Denmark 11. From the Free City of Danzig came 3 ships, and from Japan and Jugo Slavia 1 vessel each.

Decreases in number of vessels, by nationalities, from the previous year, were as follows:—Britain 58, United States 14, Denmark 13, Holland 12, Germany 6, Italy 2, and Japan 2. No vessels arrived in 1930 from France, Belgium, Panama, Mexico, Peru or Finland, all of which countries had been represented in the list for 1929. Increases in number of vessels in 1930, as compared with 1929, were as follows:—Greece 14, Sweden 12, Norway 5, and Danzig 2.

Despite the prevailing "tightness" of money so much in evidence during 1930, passenger carryings to and from the Port of Montreal reached a total practically equivalent to that realized in 1929. The following statement shows comparative figures in this respect for the year under review and the preceding year, for the various steamship companies specializing in passenger business on the Montreal run.

	1929	1930
Canadian Pacific Steamships... Westbound	20,880	22,055
Eastbound	27,086	32,480
Cunard and Anchor-Donaldson. Westbound	11,871	12,048
Eastbound	18,229	20,615
White Star Line..... Westbound	21,388	13,905
Eastbound	11,791	9,951
Canadian National Steamships. Northbound	1,054	1,064
Southbound	934	935
	<hr/>	<hr/>
	113,233	113,053
Decrease in 1930.....		180

Coastal passenger trade from Montreal, to Newfoundland and Lower St. Lawrence ports, has grown considerably in the past few years, with the provision of new tonnage by the Clarke Steamship Company and Furness Withy. Passenger carryings by these companies in 1930 were as follows:—

Clarke Steamship Company..... In	974
Out	1,107
Furness Withy..... In	475
Out	608
	<hr/>
	3,164

The number of passengers carried by the lake and river vessels of the Canada Steamship Lines was somewhat less in 1930 than in the preceding year, viz.:—

	1929	1930
Canada Steamship Lines... In	88,933	70,851
Out	67,758	55,027
	<hr/>	<hr/>
	156,691	125,878

The following tables give the classification of vessels which arrived with inward cargoes, and the vessels which sailed from the Port with outward cargoes, during the navigation season of 1930:—

Inward Cargoes

Cargo	Number	Tonnage
General.....	493	2,436,788
Coal.....	291	909,172
In Ballast.....	145	328,761
Crude Oil.....	73	368,570
Sugar, raw and refined.....	38	65,967
Gypsum.....	27	28,195
Lumber.....	19	17,855
Gasoline.....	18	40,191
Manganese Ore.....	10	29,026
Maize.....	10	28,952
Fuel Oil.....	9	33,935
Pulpwood.....	7	5,000
Sulphur.....	6	17,814
Woodpulp.....	6	15,611
Gas Oil.....	5	14,776
China Clay.....	4	8,541
Sugar and Molasses.....	4	6,382
Molasses.....	3	8,003
Oil and Gasoline.....	2	8,716
Phosphate Rock.....	2	5,008
Sugar and General.....	2	1,494
Manganese Ore and General.....	1	4,486
Manganese Ore, Maize and General.....	1	4,485
Cork.....	1	3,214
Nitrate.....	1	2,970
Coal and General.....	1	2,806
Grain in transit.....	1	2,605
Linseed and Maize.....	1	2,592
Phosphate.....	1	2,254
Benzol and Gasoline.....	1	1,394
Molasses, Coffee and Arrowroot.....	1	1,336
Fertilizer.....	1	1,317
Sugar, Molasses and Coffee.....	1	1,311
Sheet Steel.....	1	1,127
Benzol.....	1	1,084
Steel.....	1	894

Cargo	Number	Tonnage
Sugar and Fish.....	1	840
Pebbles (up Canal).....	1	726
Gypsum and Liquor.....	1	497

Outward Cargoes

Grain and General.....	343	2,187,319
General, only.....	288	464,979
Grain, only.....	154	437,326
Miscellaneous, in ballast.....	246	792,200
Oil Tankers, in ballast.....	104	458,207
Cement.....	13	17,983
Flour.....	13	9,664
Grain, Lumber and Timber.....	2	4,905
Grain and Flour.....	2	4,243
Lumber.....	2	2,251
Sulphur.....	1	4,119
Logs.....	1	3,161
Grain and Concentrates.....	1	3,054
Fuel Oil.....	1	1,549
Zinc Concentrates.....	1	1,447
Gasoline.....	1	1,394
Copper Ingots, in transit.....	1	726

HARBOUR OF MONTREAL

Statement showing the Nationalities and Net Tonnage of Sea-Going Vessels that Arrived in the Port of Montreal during the Season of 1930, which were navigated by 93,125 men.

Nationality	Number of Vessels	Net Tonnage
British.....	928	3,670,505
Norwegian.....	106	270,673
Italian.....	45	147,426
American.....	34	116,299
Greek.....	23	62,470
Swedish.....	16	20,348
German.....	15	64,272
Dutch.....	14	39,672
Danish.....	11	22,081
Danzig.....	3	14,234
Japanese.....	1	4,227
Jugo Slav.....	1	2,382
	1,197	4,434,589

Of the above, eighteen vessels were built of wood with a net tonnage of 2,447.

HARBOUR OF MONTREAL

Statement showing the Classification of Trans-Atlantic Vessels that arrived in the Port of Montreal during the past ten years.

Year	Steamships		Ships and Brigs		Schooners		Grand Total	
	No.	Tonnage	No.	Tonnage	No.	Tonnage	No.	Tonnage
1921.....	807	2,598,494	..	....	.	....	807	2,598,494
1922.....	968	3,451,703	..	....	1	1,356	969	3,453,059
1923.....	892	3,221,781	..	....	..	....	892	3,221,781
1924.....	987	3,597,031	..	....	1	116	988	3,597,147
1925.....	1,040	4,744,793	..	....	..	....	1,040	4,744,793
1926.....	1,042	3,551,489	..	....	..	....	1,042	3,551,489
1927.....	1,231	4,252,325	..	....	..	....	1,231	4,252,325
1928.....	1,222	4,693,925	..	....	..	....	1,222	4,693,925
1929.....	916	3,910,679	..	....	..	....	916	3,910,679
1930.....	826	3,740,884	.	....	.	....	826	3 740 884

HARBOUR OF MONTREAL

Statement showing the Classification of Vessels that arrived in the Port of Montreal during the past ten years from the Lower St. Lawrence and the Maritime Provinces and Newfoundland

Year	Steamships		Schooners		Grand Total	
	No.	Tonnage	No.	Tonnage	No.	Tonnage
1921.....	151	292,870	6	592	157	293,462
1922.....	223	479,333	2	245	225	479,578
1923.....	187	461,645	3	294	190	461,939
1924.....	231	498,903	4	282	235	499,185
1925.....	215	359,520	..	..	215	359,520
1926.....	379	670,241	..	..	379	670,241
1927.....	379	740,161	..	..	379	740,161
1928.....	385	800,137	..	..	385	800,137
1929.....	367	727,121	..	..	367	727,121
1930.....	371	693,705	..	..	371	693,705

HARBOUR OF MONTREAL

Combined Statement Showing the Number and Net Tonnage of Ocean Vessels that arrived in the Port of Montreal during the past Ten Years.

Year	TRANS-ATLANTIC		MARITIME PROVINCES AND NEWFOUNDLAND		TOTAL	
	Vessels	Tonnage	Vessels	Tonnage	Vessels	Tonnage
1921.....	807	2,598,494	157	293,462	964	2,891,956
1922.....	969	3,453,059	225	479,578	1,194	3,932,637
1923.....	892	3,221,781	190	461,939	1,082	3,683,720
1924.....	988	3,597,147	235	499,185	1,223	4,096,332
1925.....	1,040	4,744,793	215	359,520	1,255	5,104,313
1926.....	1,042	3,551,489	379	670,241	1,421	4,221,730
1927.....	1,231	4,252,325	379	740,161	1,610	4,992,486
1928.....	1,222	4,693,925	385	800,137	1,607	5,494,062
1929.....	916	3,910,679	367	727,121	1,283	4,637,800
1930.....	826	3,740,884	371	693,705	1,197	4,434,589

During 1930, 4,255 inland and river vessels arrived at the Port, having net register tonnage of 3,975,946 tons.

HARBOUR OF MONTREAL

Statement showing the dates of the Opening of Navigation and the Closing thereof, the First Arrival and the Last Departure for Sea; also the greatest Number of Vessels in the Port at one time, during the past ten years.

Year	Opening of Navigation	Closing of Navigation	First Arrival from Sea	Last Departure for Sea	Greatest number of Vessels in Port at one time			
					Seagoing		Inland	
					No.	Date	No.	Date
1921.....	March 29th	Dec. 14th	April 21st	Dec. 8th	78	Sept. 7th	43	July 16th
1922.....	April 13th	" 6th	" 24th	" 2nd	91	Oct. 24th	55	Aug. 21st
1923.....	" 29th	" 18th	May 3rd	" 1st	63	May 23rd	52	" 4th
1924.....	" 18th	" 12th	April 24th	" 3rd	80	Nov. 4th	43	June 17th
1925.....	" 10th	" 10th	" 16th	" 8th	62	Aug. 19th	46	Oct. 6th
1926.....	May 2nd	" 6th	May 3rd	" 6th	60	May 19th	66	Sept. 7th
1927.....	April 10th	Jan. 4/28	April 12th	" 6th	80	Oct. 20th	44	May 1st
1928.....	" 26th	" 6/29	" 26th	" 9th	61	Nov. 19th	43	Aug. 13th
1929.....	" 10th	Dec. 10th	" 20th	" 7th	53	July 3rd	47	Oct. 7th
1930.....	" 12th	" 12th	" 21st	" 12th	50	May 14th	41	Sept. 12th

GRAIN ELEVATOR SYSTEM

During the year 1930, the Harbour Commissioners' extensive and up-to-date grain elevator system, comprising grain elevators, marine towers, scales, car unloading machines, and the most elaborate type of grain conveyors in existence, was utilized to less than 30% of capacity. The largest annual shipments of grain from the Port of Montreal, over this grain system, took place in 1928, in which year the exports reached 211,295,379 bushels. Deliveries of grain in 1930 amounted to 81,669,864 bushels, which was approximately ten million bushels less than in 1929.

In the eight-year period from 1921 to 1928 inclusive, grain deliveries from the elevator system amounted in all to 1,287,390,696 bushels, or an average per year of 160,923,837 bushels. Thus the business done over the Commissioners' grain equipment in 1930 was just half of the annual average for the eight-year period mentioned.

Grain deliveries from each of the four grain elevators in 1929 and in 1930 were as follows:—

	1929	1930
	bushels	bushels
Grain Elevator No. 1	21,904,778	20,453,318
“ “ “ 2	28,480,695	21,644,646
“ “ “ 3	21,023,646	18,793,508
“ “ “ “B”	19,285,089	20,778,392
	<hr/>	<hr/>
	90,694,208	81,669,864

Grain deliveries by months in 1930 maintained a fairly even flow, showing that at no time during the season did the export movement improve beyond the sluggish level which has existed since August, 1929. Deliveries during the months of open navigation in the past two years were:—

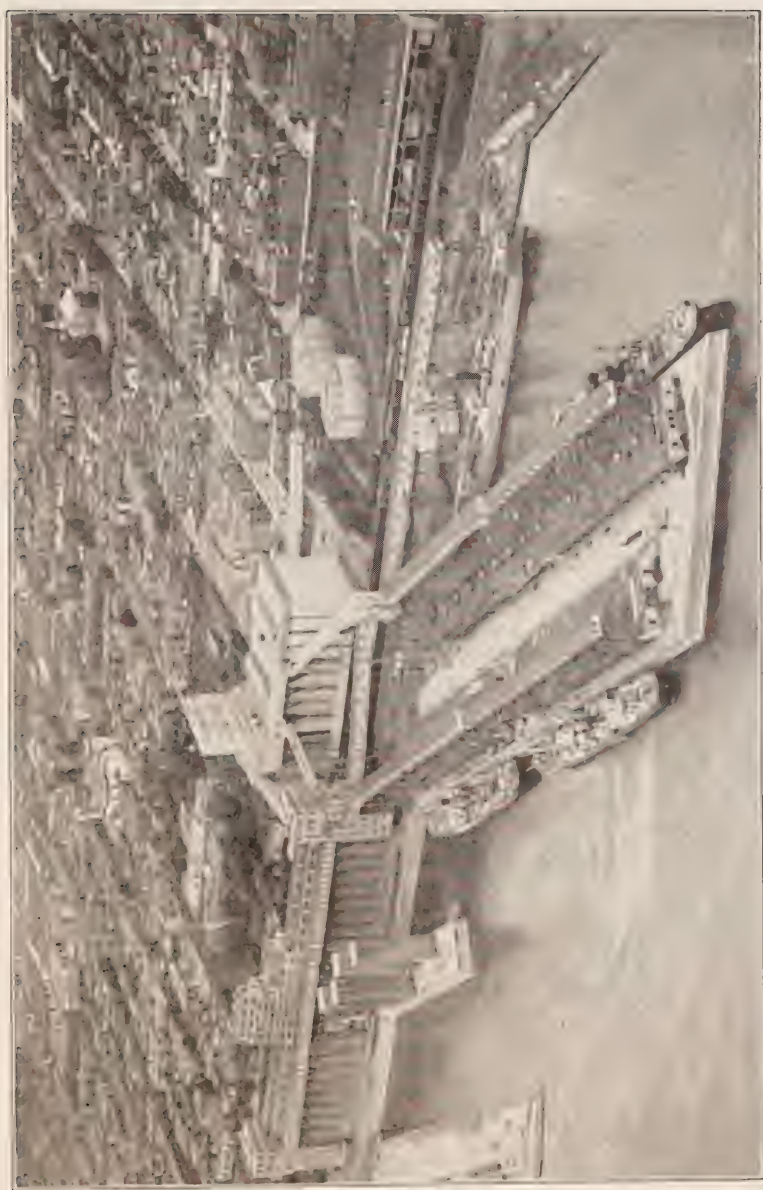
	1929 bushels	1930 bushels
May.....	21,210,126	11,754,982
June.....	19,808,745	11,102,963
July.....	14,444,853	12,339,605
August.....	8,009,182	11,274,078
September.....	5,999,027	9,154,524
October.....	8,460,286	8,744,213
November.....	8,804,367	11,483,896

Total deliveries comprised the following quantities of wheat and coarse grains:—

Wheat.....	68,017,431 bushels
Corn.....	4,260,279 “
Barley.....	4,031,335 “
Oats.....	3,752,204 “
Rye.....	962,191 “
Flax.....	623,593 “
Buckwheat.....	22,831 “

An outstanding feature of the season's grain movement in 1930 was the severe decrease in the percentage of total exports which arrived at Montreal by rail. In previous years the average percentage of rail grain varied from about 20% to about 30% in each year, whereas in 1930 it only amounted to 5% of the total. Thus while exports decreased by about 10,000,000 bushels from 1929, the quantity of water-borne grain carried to Montreal increased from 69,800,508 bushels in 1929 to 75,362,566 bushels in 1930.

Year	No. of Vessels	Bushels	No. of Cars	Bushels	Percentage of total by water
1923.....	1,147	74,631,578	27,631	45,376,412	62%
1924.....	1,606	112,020,615	28,276	53,118,784	68%
1925.....	1,637	124,827,099	19,554	38,974,626	75%
1926.....	1,471	104,674,724	16,684	31,223,158	77%
1927.....	2,246	159,071,036	18,725	35,216,274	81%
1928.....	2,156	163,429,223	30,231	53,887,651	78%
1929.....	855	69,800,508	11,618	20,628,281	78%
1930.....	848	75,362,566	2,178	4,199,854	95%



GRAIN ELEVATOR No. 3—CAPACITY 5,000,000 BUSHELS

For the first time in very many years, Great Britain was not the largest importer of grain from Montreal. The honour in 1930 went to Italy, which took 16,770,954 bushels of wheat. Great Britain, however, was second with 16,173,860 bushels, of which 14,922,823 bushels was wheat. Belgium was represented by more than eight million bushels, France and Holland by over six million bushels each, Greece by four million bushels, Germany by two and a half million bushels, and Norway by over one million bushels. The following statement gives comparison of bulk grain deliveries direct to vessel, shipped to various countries in 1929 and 1930:—

	1929	1930
	bushels	bushels
Italy.....	10,727,331	16,770,954
Great Britain.....	21,531,464	16,173,860
Belgium.....	13,684,796	8,627,879
Holland.....	13,624,293	6,607,681
France.....	4,933,025	6,390,207
Greece.....	2,691,443	4,271,704
Germany.....	7,426,269	2,663,685
Norway.....	1,420,195	1,037,187
Ireland.....	911,599	861,458
Denmark.....	393,771	205,994
Brazil.....	none	205,333
Japan.....	none	190,667
Sweden.....	294,620	160,000
Algeria.....	none	106,613
Malta.....	none	67,200

SUMMARY OF GRAIN HANDLING

Grain Elevator No. 1 — 1930

	Receipts bus.	Deliveries bus.
January . . . . .	.....	170,549
February	3,881	157,326
March	3,934	135,185
April	705,006	358,722
May	2,679,134	2,441,155
June	2,700,106	2,774,831
July	3,153,942	3,390,989
August	3,733,066	3,725,967
September	2,670,687	2,532,591
October	1,794,603	1,816,621
November	2,126,978	2,443,573
December	875,760	505,809
	<hr/> 20,447,097	<hr/> 20,453,318

Receipts		Deliveries	
Water	20,091,782 bus.	Steamers	18,568,670 bus.
		Cars	1,327,187 “
Rail	355,315 “	Wagons	557,461 “
	<hr/> 20,447,097		<hr/> 20,453,318

First Vessel unloaded April 22nd, 1930.

Last vessel unloaded December 12th, 1930.

228 vessels 20,091,782 bus.

87 C.N.R. cars	} 173 cars	355,315 “
86 C.P.R. cars		
		<hr/> 20,447,097 “

SUMMARY OF GRAIN HANDLING

Grain Elevator No. 2 — 1930

	Receipts bus.	Deliveries bus.
January	51,499	233,254
February	17,516	218,848
March	63,120	165,648
April	761,020	477,131
May	3,386,069	3,535,625
June	2,622,632	2,521,379
July	2,987,462	3,044,509
August	2,769,244	2,846,451
September	2,402,207	2,469,050
October	2,326,004	2,493,590
November	2,921,373	3,293,473
December	341,814	345,688
	<hr/> 20,649,960	<hr/> 21,644,646

	Receipts		Deliveries
Water	18,207,146 bus.	Steamers . .	18,921,797 bus.
		Cars	2,134,966 “
Rail	2,442,814 “	Wagons . . .	587,883 “
	<hr/> 20,649,960		<hr/> 21,644,646

First vessel unloaded April 22nd, 1930.

Last vessel unloaded December 1st, 1930.

214 vessels 18,207,146 bus.

237 C.N.R. cars }
 1,016 C.P.R. cars } 1,253 cars . . . 2,442,814 “

20,649,960

SUMMARY OF GRAIN HANDLING

Grain Elevator No. 3 — 1930

	Receipts bus.	Deliveries bus.
January		225,225
February		337,984
March		320,386
April		228,877
May	2,581,950	2,609,919
June	3,163,300	2,853,110
July	2,904,215	2,821,469
August	2,200,813	2,112,901
September	1,963,773	1,985,802
October	2,618,068	2,348,709
November	2,498,133	2,324,410
December	181,457	624,716
	<hr/>	<hr/>
	18,111,709	18,793,508

	Receipts		Deliveries
Water	17,563,429 bus.	Steamers . .	15,449,348 bus.
		Cars	2,965,978 "
Rail	548,280 "	Wagons . . .	378,182 "
	<hr/>		<hr/>
	18,111,709 "		18,793,508 "

First vessel unloaded May 3rd, 1930.

Last vessel unloaded December 1st, 1930.

178 vessels	17,563,429 bus.	
82 C.N.R. cars	} 284 cars	548,280 "
202 C.P.R. cars		
	<hr/>	<hr/>
	18,111,709	"

SUMMARY OF GRAIN HANDLING

Grain Elevator "B" — 1930

	Receipts bus.	Deliveries bus.
January.....		102,497
February.....	9,748	23,900
March.....		248,371
April.....	380,977	216,189
May.....	3,059,429	3,168,283
June.....	3,077,789	2,953,643
July.....	3,174,327	3,082,638
August.....	2,826,163	2,588,759
September.....	2,355,755	2,167,081
October.....	1,863,155	2,085,293
November.....	3,245,264	3,422,440
December.....	361,047	719,298
	<hr/> 20,353,654	<hr/> 20,778,392

Receipts		Deliveries	
Water.....	19,500,209 bus.	Steamers..	18,339,620 bus.
		Cars.....	2,151,740 "
Rail.....	853,445 "	Wagons...	287,032 "
	<hr/> 20,353,654 "		<hr/> 20,778,392 "

First vessel unloaded April 26th, 1930.

Last vessel unloaded December 1st, 1930.

230 vessels.....	19,500,209 bus.	
429 C.N.R. cars	} 468 cars.....	853,445 "
39 C.P.R. cars		
		<hr/> 20,353,654 "

SUMMARY OF GRAIN HANDLING

Grain Elevators 1, 2, 3 and B — 1930

	Receipts bus.	Deliveries bus.
January	51,499	731,525
February	31,145	738,058
March	67,054	869,590
April	1,847,003	1,280,919
May	11,706,582	11,754,982
June	11,563,827	11,102,963
July	12,219,946	12,339,605
August	11,529,286	11,274,078
September	9,392,422	9,154,524
October	8,601,830	8,744,213
November	10,791,748	11,483,896
December	1,760,078	2,195,511
	<hr/> 79,562,420	<hr/> 81,669,864

	Receipts		Deliveries
Water	75,362,566 bus.	Steamers . .	71,279,435 bus.
		Cars	8,579,871 “
Rail	4,199,854 “	Wagons . . .	1,810,558 “
	<hr/> 79,562,420 “		<hr/> 81,669,864 “

First vessel unloaded April 22nd, 1930.

Last vessel unloaded December 12th, 1930.

848 vessels	75,362,566 bus.	
835 C.N.R. cars } 2,178 cars . . .	4,199,854 “	
1,343 C.P.R. cars }		
	<hr/> 79,562,420 “	

Stock in Elevators (at December 31st, 1930)—

11,105,000 bushels.

SUMMARY OF GRAIN RECEIPTS, ELEVATORS 1, 2, 3, & B—1930

	WHEAT	OATS	BARLEY	CORN	RYE	FLAX	BUCK- WHEAT	TOTAL Bushels
January.....	40,222	9,817	.....	.....	.....	.....	1,460	51,499
February.....	19,348	9,464	1,262	1,071	.....	.....	.....	31,145
March.....	41,819	18,083	7,152	.....	.....	.....	.....	67,054
April.....	1,443,851	44,871	265,252	.....	93,029	.....	.....	1,847,003
May.....	10,365,391	451,999	415,894	57,092	372,956	.....	.....	11,706,582
June.....	10,421,987	469,894	381,825	59,061	231,060	43,250	.....	11,563,827
July.....	10,859,675	312,533	153,934	843,633	29,970	.....	.....	12,219,946
August.....	10,489,480	208,855	406,334	.....	339,584	20,201	.....	11,529,286
September.....	7,752,979	379,138	500,434	600,778	104,698	.....	.....	9,392,422
October.....	5,956,762	564,128	814,721	1,020,764	118,110	113,747	13,598	8,601,830
November.....	7,616,529	493,363	873,529	908,052	594,042	306,233	.....	10,791,748
December.....	1,013,135	325,795	285,002	3,047	133,099	.....	.....	1,760,078
	66,021,178	3,287,940	4,105,339	3,493,498	2,016,548	622,859	15,058	79,562,420

SUMMARY OF GRAIN DELIVERIES, ELEVATORS 1, 2, 3, & B—1930

	WHEAT	OATS	BARLEY	CORN	RYE	FLAX	BUCK- WHEAT	TOTAL Bushels
January.....	82,646	210,468	206,558	204,794	25,500	.....	1,559	731,525
February.....	54,152	174,784	236,194	207,000	30,247	.....	2,695	738,058
March.....	192,542	157,113	326,629	165,961	27,345	32,986	.....	869,590
April.....	692,822	177,702	224,625	144,600	41,170	.....	.....	1,280,919
May.....	10,660,471	388,933	335,139	196,119	173,187	.....	1,133	11,754,982
June.....	10,174,649	366,221	243,696	133,219	140,637	43,250	1,291	11,102,963
July.....	10,921,448	434,404	348,528	507,933	107,091	20,201	.....	12,339,605
August.....	10,006,196	500,608	324,161	300,815	55,964	85,033	1,301	11,274,078
September.....	8,248,524	300,499	239,230	261,549	54,395	113,747	1,183	9,154,524
October.....	6,728,319	389,033	652,839	810,604	41,271	200,649	8,400	8,744,213
November.....	8,763,222	510,909	661,503	1,098,009	244,335	73,332	5,269	11,483,896
December.....	1,492,440	141,530	232,233	229,676	26,300	.....	.....	2,195,511
	68,017,431	3,752,204	4,031,335	4,260,279	962,191	623,593	22,831	81,669,864

SUMMARY OF GRAIN HANDLING
ELEVATORS 1, 2, 3, and B—1930

	C.N.R. Cars	C.P.R. Cars	Total Cars	Vessels	Receipts bus.	Deliveries bus.
January.....	4	2	6	.....	51,499	731,525
February.....	3	4	7	.....	31,145	738,058
March.....	40	3	43	.....	67,054	869,590
April.....	17	58	75	20	1,847,003	1,280,919
May.....	149	167	316	127	11,706,582	11,754,982
June.....	40	136	176	128	11,563,827	11,102,963
July.....	46	76	122	135	12,219,946	12,339,605
August.....	134	71	205	133	11,529,286	11,274,078
September.....	43	132	175	101	9,392,422	9,154,524
October.....	81	210	291	85	8,601,830	8,744,213
November.....	165	345	510	106	10,791,748	11,483,896
December.....	113	139	252	13	1,760,078	2,195,511
	835	1,343	2,178	848	79,562,420	81,669,864

STATEMENT SHOWING DESTINATION OF EXPORT GRAIN—1930
(Bulk Grain Deliveries Direct To Vessel)
(Bushels)

COUNTRY	WHEAT	BARLEY	RYE	OATS	BUCK- WHEAT	CORN	TOTAL
Algeria	106,613	.....	.....	.....	.....	.....	106,613
Belgium	8,375,668	.....	98,623	153,588	.....	.....	8,627,879
Brazil	205,333	.....	.....	.....	.....	.....	205,333
Denmark	8,000	.....	197,994	.....	.....	.....	205,994
France	6,367,807	.....	22,400	.....	.....	.....	6,390,207
Germany	2,518,217	19,111	51,429	74,928	.....	.....	2,663,685
Great Britain	14,922,823	443,436	103,568	609,748	.....	94,285	16,173,860
Greece	4,271,704	.....	.....	.....	.....	.....	4,271,704
Holland	6,051,911	329,642	88,376	125,470	12,282	.....	6,607,681
Ireland, Northern	112,000	.....	.....	70,570	.....	.....	182,570
Irish Free State	576,058	.....	55,715	47,115	.....	.....	678,888
Italy	16,770,954	.....	.....	.....	.....	.....	16,770,954
Japan	190,667	.....	.....	.....	.....	.....	190,667
Malta	67,200	.....	.....	.....	.....	.....	67,200
Norway	1,037,187	.....	.....	.....	.....	.....	1,037,187
Sweden	160,000	.....	.....	.....	.....	.....	160,000
Unknown	4,040,956	.....	.....	.....	.....	.....	4,040,956
	65,783,098	792,189	618,105	1,081,419	12,282	94,285	68,381,378

HARBOUR RAILWAY TERMINALS

During the first four months of the year (viz.: prior to the opening of navigation), operations on the Commissioners' Railway Terminals were of a satisfactory volume. As compared with the same months in 1929, revenue cars received and forwarded increased by approximately 10% without any new or exceptional source of traffic being recorded. A gradual and constant improvement in the interchange traffic and in shipments of coal from plants at the Eastern end of the Harbour were the more important factors in the betterment of the winter traffic movement.

The month of December, the last of the inactive months, did not maintain the advantage gained in the beginning of the year, and practically all the increased car movement recorded during the forepart of the closed season was nullified during the last month of the year.

With the exception of a slight increase in the outward movement of revenue cars during the month of May, an uninterrupted decline in the movement of rail traffic was recorded throughout the season of navigation as compared with last year. Before examining the traffic returns of the navigation season, with a view to recording for future reference the general trend of the traffic movement, it might be well to recall that it is only necessary to go back to 1927 to find smaller car handling than during the year under review.

During the year, the decrease in revenue cars received from and forwarded to the railway companies amounted to 26,247 cars, or a decrease of 18.5% in comparison with 1929.

No detailed analysis is required to explain these figures, which are a direct result of the general decline in freight movement throughout the country during the year. All sources of traffic were affected, with grain, interchange, and import and export traffic showing the greatest decreases.

The depression in the export grain movement had so great an effect on the operations of the Railway Department as to

demand passing comment here. During the year the number of cars of grain unloaded at the Commissioners' elevators Nos. 1, 2, and 3 (Elevator "B" not being situated on the Harbour Railway) only amounted to 1,710 cars, which was the smallest number in any year since 1912. This was a decrease of 26,629 cars as compared with the peak year of 1922, and when compared with the yearly average, during the decade 1920-1929, of approximately 17,500 cars, indicates the serious effect which the unfavourable export grain situation exercised upon this formerly important branch of the Harbour Railway operations.

One redeeming feature of the year's railway operations was the revival of the export live stock traffic which had practically been non-existent for the past four years. This traffic has considerable bearing on railway operations, as up to the present time it has been entirely rail-hauled. While the volume this year did not reach large proportions, it is to be hoped that it will become permanent, and will eventually equal the figure for 1926, when nearly 3,000 cars were handled. The banana traffic, in its second year's operation, resulted in an increase of about 500 cars shipped from the Harbour Terminals. The increased importation of foreign coal produced favourable results on the activities of the Railway Department from the coal wharves in the Eastern Section of the Harbour. Domestic coal shipments by rail from Sections 35-37 were not quite as large as last year.

The transportation of coal, cement, bagged grain, etc., within the Harbour territory, where the Commissioners are the only carriers, did not measure up to last year's traffic, the decrease being in proportion to the general decline.

Consequent upon the smaller traffic returns, the number of locomotive hours worked was reduced by 4,275 hours, both the electric and steam locomotives showing a reduction, the aggregate being the lightest since 1926, and 15% less than in 1929. The electric locomotives during the year were in operation 15,715 hours, and covered 47,542 miles.



VICTORIA BASIN, PORT OF MONTREAL.

The necessary maintenance and repairs to the rolling stock were carried out in the Departmental Shop, as usual, the heavy repairs being done in the winter season. Two of the small steam locomotives, purchased many years ago as second-hand stock, were found to have outlived their usefulness, and were dismantled.

The construction activities of the Department were limited to the new wharf development at Sections 57-60, which was sufficiently advanced to permit of traffic operations from two coal berths, and two small private sidings.

The total receipts and deliveries of loaded and empty cars during the year amounted to 205,082 cars.

The following table gives the mileage of Harbour railway tracks, and the number of cars handled during the past ten years:—

	Mileage of Harbour Railway	Number of cars handled by Commissioners
1921	58.54	143,564
1922	58.77	200,593
1923	60.64	216,382
1924	63.24	225,377
1925	63.55	251,586
1926	65.19	205,481
1927	67.44	195,853
1928	67.99	240,622
1929	68.42	242,967
1930	69.28	205,082

The extent of the Harbour Commissioners' railway tracks at the end of 1930 is as follows:—

	Lin.	Ft.	Miles
South of Lachine Canal, Bickerdike Pier, Windmill Point Wharf and West	50,264		9.5197
To Guard Pier	10,400		1.9697

	Lin. Ft.	Miles
Sections 12 to 46, High Level, Main Line...	57,079	10.8104
To Piers, Elevators, Crossovers and Sidings, etc.....	128,505	24.3380
Sections 35 to 46, Low Level, Main Line..	10,080	1.9091
Sections 46 to 101, High Level, Main Line.	54,134	10.2526
To Wharves, Industries, etc.....	53,051	10.0475
At South Shore, St. Lambert.....	2,300	0.4356
<hr/>		
Grand Total Tracks, end of 1930.....	365,813	69.2826
Grand Total Tracks, end of 1929.....	361,288	68.4257
<hr/>		
Increase in 1930.....	4,525	0.8569



COMMODITY TONNAGE STATEMENT

The situation existing in 1930 at the Harbour of Montreal regarding tonnages of commodities handled through the Port may be summarized in a manner strikingly similar to that employed in the Annual Report for 1929. In a word, it was as follows:—A new high figure for all time in the tonnage of Imports; a negligible decrease of some 50,000 tons in tonnage of Domestic merchandise; and a decrease of 317,335 tons in Exports, of which the drop in grain shipments alone represented 259,956 tons.

Total tonnage of all commodities handled amounted in 1930 to 9,687,769 tons, a remarkably creditable figure considering the unusual conditions which prevailed during the year in industrial and shipping circles all over the globe. This was a decrease of 249,103 tons from the figure for the previous year. It is noteworthy that the tonnage for 1930 has only been exceeded in the Port's history in the years 1927, 1928 and 1929. The total is made up as follows:—

Imports.....	3,376,182 tons
Exports.....	3,101,561 “
Domestic.....	3,210,026 “
<hr/>	
9,687,769 tons	

Imports increased by 119,191 tons over the previous year, due entirely to larger receipts of bulk cargo commodities, which realized a net increase of 278,983 tons, the difference in these two figures representing a decrease in general cargo imports of 159,792 tons. There were bulk cargo increases in Anthracite Coal (369,189 tons), Gasoline (55,985 tons), Corn (30,296 tons), Bituminous Coal (19,150 tons), Woodpulp (12,202 tons), Phosphates (9,152 tons) and Molasses (5,182 tons), while decreases were shown in Sand, Petroleum Oil, Raw Sugar and Sulphur. Imports of bananas from the British West Indies amounted to 35,883 tons.

Exports decreased by 317,335 tons from the previous year's figure, the principal sources of this decrease having been

in the following commodities:—Grain (259,956 tons), Printing paper (22,846 tons), Meat products (17,995 tons), Iron scrap (13,578 tons), Raw fruit (15,347 tons), Lard (11,326 tons), Agricultural implements (10,320 tons), Rubber manufactures (9,511 tons), Cement (8,032 tons) and Cheese (6,727 tons).

A notable gain was recorded in the export of Automobiles and Automobile Parts, which increased over 100 per cent. from 1929, with exports of 104,424 tons as compared with 51,477 tons in the preceding year.

Flour also recorded a substantial increase of 51,046 tons. Liquors increased by 6,124 tons, Copper Matte by 13,916 tons and Live Stock export was resumed after a number of years, and was represented in the Export total by 2,569 tons.

The commodities listed under the heading “Domestic” decreased by 50,959 tons. Included in this list are the following important items, viz.:—Bituminous Coal, 1,413,442 tons; Grain for Local Delivery, 297,232 tons; Fuel Oil, 284,539 tons; Gasoline, 204,760 tons; Lumber, 143,526 tons; Cement, 82,994 tons; Sugar, 77,381 tons; Gypsum, 70,850 tons; Anthracite coal, 64,416 tons; Sand, 58,721 tons; Crushed stone, 47,073 tons; Crude Oil, 44,256 tons; Flour, 28,075 tons; Steel Billets and Blooms, 25,464 tons; Green Vegetables, 20,653 tons; Refined Oil, 19,767 tons; Scrap Steel, 13,582 tons; Molasses, 13,294 tons.

While exact details of imports and exports are given in the ensuing tables, it is worth noting the extent of the movement of the more important commodities, viz.:—

Principal Imports

Anthracite Coal	954,311 tons
Petroleum Oil	940,592 “
Raw Sugar	208,107 “
Bituminous Coal	131,535 “
Corn	108,157 “
Gasoline	98,980 “
Manganese Ore	88,720 “

Dry Goods.....	55,503	tons
Bananas.....	35,883	"
Fruit.....	33,346	"
Sulphur.....	31,375	"
Steel Sheets.....	28,621	"
Woodpulp.....	28,067	"
Molasses.....	27,868	"
Sand.....	27,198	"
Steel, miscellaneous.....	23,515	"
Phosphates.....	22,418	"
Sheet Glass.....	22,070	"
Toys.....	20,115	"
Liquors.....	18,416	"
Steel Plates.....	17,993	"
Coarse Salt.....	17,876	"
Tin Plate.....	13,500	"
Iron and Steel Bars.....	12,810	"
Tea.....	11,554	"
Glassware.....	11,132	"
Wire, various.....	10,955	"
Machinery.....	10,687	"
Fire Brick.....	10,332	"
Muriate of Potash.....	10,208	"
China Clay.....	9,729	"
Crockery.....	9,310	"
Fluorspar.....	8,429	"
Wines.....	8,221	"
Dried Fruit.....	8,039	"
Earthenware.....	8,019	"
Whiting.....	7,788	"
Flax Seed.....	7,767	"
Iron, various.....	7,662	"
Garden Bulbs.....	6,463	"
Vegetables.....	6,343	"
Iron Skelp.....	5,497	"
Furniture.....	5,470	"
Fish, various.....	5,408	"
Chinaware.....	5,069	"

Binder Twine.....	4,162 tons
Edible Nuts.....	4,317 "
Automobiles and Parts.....	4,131 "
Millinery.....	4,130 "
Coffee.....	3,469 "
Dry Colours.....	3,320 "
Coconuts.....	3,055 "

Principal Exports

Wheat.....	1,983,176 tons
Flour.....	302,540 "
Automobiles and Parts.....	104,424 "
Fruit.....	63,855 "
Lumber.....	57,045 "
Lard.....	50,094 "
Printing Paper.....	46,320 "
Meat.....	42,297 "
Cheese.....	39,405 "
Rubber Manufactures.....	26,985 "
Hay.....	26,587 "
Oats.....	24,953 "
Woodpulp.....	22,872 "
Cement.....	22,450 "
Liquors.....	21,784 "
Barley.....	19,013 "
Rye.....	17,307 "
Copper Matte.....	16,627 "
Rolled Oats.....	12,129 "
Asbestos Fibre.....	11,880 "
Ship Stores.....	7,509 "
Paper, Miscellaneous.....	6,244 "
Iron, various.....	6,152 "
Agricultural Implements.....	5,778 "
Cereals.....	5,767 "
Zinc Ore.....	5,315 "
Sundries.....	4,758 "
Milk, in tins, etc.....	4,621 "

Acetic Acid.....	4,305 tons
Pulpboard.....	3,990 "
Fish, various.....	3,948 "
Wire, various.....	3,910 "
Electrical Apparatus.....	3,148 "
Corn.....	3,082 "
Machinery.....	3,072 "



IMPORTS

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Acids, various.	1,430	167	200	1,063
Advertising Matter.	171	57	47	67
Aeroplanes and Parts.	620	527	...	93
Agricultural Implements.	199	148	41	10
Alum.	311	5	106	200
Alumino Ferric.	1,030	...	...	1,030
Aluminum Foil.	236	155	48	33
" Ingot.	26	20	6	...
" Rods.	208	...	208	...
" Scrap.	47	30	17	...
" Sheets.	82	9	73	...
" Strips.	7	2	5	...
" Ware.	192	21	34	137
Ammonia.	93	41	3	49
" Carbonate.	118	5	9	104
" Muriate.	934	...	429	505
" Nitrate.	1,503	724	...	779
" Phosphate.	342	...	...	342
Ammunition.	29	29	...	...
Anchors.	128	10	17	101
Animal Foods.	464	446	...	18
Animals, small.	38	...	...	38
Antimony.	54	7	...	47
Arrow Root.	13	3	6	4
Arsenic.	9	...	...	9
Artists' Materials.	54	31	17	6
Asbestos, mfrs of.	120	16	10	94
Asphalt.	784	12	...	772
Automobiles and Parts.	4,131	748	6	3,377
Baby Carriages.	822	76	322	424
Bags and Bagging.	3,095	5	...	3,090
Bamboo.	60	...	...	60
Bananas.	35,883	...	...	35,883
Barium, Carbonate.	124	124	...	...
Barley, pot.	4	4	...	...
Barrels, etc., empty.	2,337	2,039	4	294
Barytes.	932	75	39	818
Basic Slag.	487	...	...	487
Basketware.	1,582	753	370	459

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Bath Brick.....	3	...	...	3
Baths.....	7	3	...	4
Batteries.....	21	18	...	3
Battery Plates.....	1,263	...	1,263	...
Beads, Glass.....	9	5	...	4
Beans, Common.....	327	19	101	207
Bedding.....	9	1	...	8
Beers.....	1,173	44	856	273
Bees Wax.....	16	...	...	16
Bells.....	32	16	1	15
Belting.....	34	14	...	20
Bicycles and Parts.....	480	438	7	35
Birdseed.....	21	5	9	7
Biscuits.....	895	325	284	286
" Dog.....	343	104	180	59
Black Lead.....	7	...	...	7
Blanc Fixe.....	518	50	...	468
Bleaching Powders.....	1,351	157	176	1,018
Boats, N.O.S.....	285	64	215	6
Boiler Compounds.....	93	41	...	52
" Parts.....	431	13	...	418
Bone Ash.....	15	8	...	7
Bone Black.....	131	87	44	...
Books.....	2,934	726	1,388	820
Boots and Shoes.....	1,417	535	346	536
Bottles, empty, Common.....	360	59	27	274
" Superior.....	83	19	26	38
" Thermos.....	627	106	346	175
Boxes, empty.....	94	29	6	59
Brass, mfrs of.....	249	59	33	157
" Rods.....	125	...	...	125
" Scrap.....	21	...	...	21
" Sheets.....	35	3	...	32
" Tubing.....	215	99	4	112
" Wire.....	9	2	...	7
Bread.....	32	14	4	14
Brick, Fire.....	10,332	2,221	...	8,111
" Glazed.....	5	3	...	2
Bronze Ingots.....	6	1	...	5
" mfrs of.....	32	12	...	20
" Powder.....	26	4	3	19
" Wire.....	27	..	...	27

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Brooms and Brushes.....	380	72	48	260
Burlaps.....	286	96	40	150
Butter.....	198	10	...	188
Buttons.....	62	7	...	55
Cable.....	7	5	2	...
Candles.....	117	11	36	70
Canned Goods, N.O.S.....	162	74	39	49
Capsicum.....	15	...	3	12
Capsules.....	139	21	11	107
Carbide Carbonate.....	221	...	...	221
Cardboard.....	947	346	91	510
Carpets.....	2,421	919	478	1,024
Casein.....	72	58	3	11
Casings, Sausage.....	37	8	1	28
Castings.....	650	581	...	69
Celluloid.....	57	36	2	19
“ mfrs of.....	167	81	31	55
Cement.....	591	...	3	588
“ Roofing.....	18	18	...	...
Chains.....	648	94	24	530
Chalk.....	662	491	...	171
Chalk Precipitated.....	75	...	...	75
Charcoal.....	3	...	...	3
Cheese.....	535	161	62	312
Chemicals, N.O.S.....	4,877	1,568	1,424	1,885
Chicle.....	85	85	...	...
Chicory.....	36	13	2	21
Chinaware.....	5,069	1,067	578	3,424
Chlorides, N.O.S.....	35	1	34	...
Chloride, Barium.....	9	...	...	9
“ Calcium.....	1,175	205	...	970
“ Magnesium.....	120	...	...	120
“ Sodium.....	21	21	...	...
Church Ornaments.....	191	55	4	132
Cigars and Cigarettes.....	57	19	6	32
Clay, Burnt.....	164	...	35	129
“ China.....	9,729	172	...	9,557
“ Fire.....	536	334	4	198
“ mfrs. of.....	65	60	5	...
“ unmanufactured.....	61	...	...	61
Clocks.....	2,321	769	506	1,046

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Clothes Pins.....	127	51	23	53
Coal, Anthracite.....	954,311	...	...	954,311
“ Bituminous.....	131,535	...	...	131,535
Cocoa.....	411	61	162	188
“ Beans.....	3,617	...	606	3,011
“ Butter.....	1,448	41	1,073	334
Coconuts.....	3,055	74	550	2,431
Coffee.....	3,469	122	997	2,350
“ Essence.....	80	1	43	36
Coin Blanks, Nickel.....	11	11	...	...
Concrete Pipes.....	985	985	...	...
Confectionery.....	2,026	679	788	559
Copperas.....	46	...	...	46
Copper, mfrs. of.....	36	23	4	9
“ Rollers.....	24	24	...	...
“ Scrap.....	26	...	...	26
“ Sheets.....	57	24	2	31
“ Sulphate of.....	694	...	...	694
“ Tubing.....	87	29	2	56
“ Wire.....	5	...	...	5
Cordage.....	202	8	6	188
Corks.....	51	5	21	25
Corkwood.....	1,316	6	18	1,292
“ Scrap.....	2,333	...	...	2,333
Corn.....	108,157	...	...	108,157
Corn Starch.....	6	...	6	...
Cotton, Raw.....	493	341	...	152
“ Waste.....	508	63	268	177
Cream Separators.....	1,046	451	379	216
Cream of Tartar.....	161	26	80	55
Crockery.....	9,310	1,997	3,508	3,805
Crucibles.....	189	54	46	89
Curling Stones.....	18	8	10	...
Cutch.....	4	1	2	1
Cutlery.....	255	100	43	112
Cyanides.....	595	587	...	8
Cylinders, gas.....	35	9	8	18
Degras.....	271	91	5	175
Dextrine.....	378	..	66	312
Disinfectants.....	217	13	86	118
Drugs.....	1,079	89	2	988

Distribution after Import

COMMODITY.....	Total Tons	Rail	Vessel	Other
Druggist Sundries.....	317	79	63	175
Dry Colours.....	3,320	394	230	2,696
Dry Goods.....	55,503	21,358	8,513	25,632
Dump Cars.....	123	52	...	71
Dyes.....	861	140	154	567
Dynamite.....	102	102	...	...
Earthen Drain Pipes.....	39	...	7	32
Earthenware.....	8,019	3,412	1,755	2,852
Effects, Settlers'.....	3,242	1,957	72	1,213
Eggs, frozen.....	283	...	...	283
Electrical Apparatus.....	3,301	1,865	66	1,370
Electric Bulbs.....	36	30	3	3
Emery Cloth.....	38	3	3	32
Emery Powder.....	12	5	2	5
Enamelware.....	1,346	254	450	642
Engines, oil.....	83	61	1	21
Exhibits.....	80	27	...	53
Extracts, N.O.S.....	30	16	...	14
Feathers.....	36	9	17	10
Felt.....	438	72	9	357
Ferro Alloy.....	12	...	...	12
“ Chrome.....	33	...	...	33
“ Manganese.....	321	111	...	210
“ Silicate.....	6	...	...	6
Fertilizers, N.O.S.....	283	...	12	271
Fibres.....	152	114	17	21
Fibreboard.....	4	...	...	4
Filtermass.....	35	5	3	27
Firearms.....	169	134	1	34
Fish, Cured.....	2,334	1,587	230	517
“ Fresh or Frozen.....	33	...	27	6
“ in tins.....	3,041	1,340	935	766
Fish Plates.....	14	...	...	14
Fishing Apparatus.....	185	155	14	16
Flax Seed.....	7,767	14	...	7,753
“ Tow.....	11	11	...	...
Flour, bone.....	45	45	...	...
“ N.O.S.....	370	...	29	341
“ Potato.....	1,370	265	207	898
“ Wheat.....	50	50	...	...

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Flour, Wood.....	56	56	...	...
Fluorspar.....	8,249	...	...	8,249
Fly Catchers.....	325	22	196	107
Fruit, dried.....	8,039	1,067	2,888	4,084
“ in brine.....	1,513	...	414	1,099
“ in tins.....	8,067	73	2,568	5,426
“ Juices.....	295	80	27	188
“ Pulp.....	722	90	504	128
“ Raw, N.O.S.....	14,701	3,255	37	11,409
“ Syrups.....	9	...	...	9
Fullers Earth.....	629	...	294	335
Furniture.....	5,470	2,890	902	1,678
Furs.....	270	30	1	239
Garden Bulbs.....	6,463	3,454	878	2,131
Garlic.....	7	...	...	7
Gasoline.....	98,980	...	...	98,980
Gelatine.....	494	169	25	300
Ginger.....	169	2	10	157
Glass Jars.....	6	5	1	...
Glass, Sheet.....	22,070	6,670	3,997	11,403
Glassware.....	11,132	3,169	1,730	6,233
Glue.....	1,192	75	516	601
“ Bones.....	1,000	1,000	...	...
Glycerine.....	3,757	714	938	2,105
Granite Chips.....	47	...	...	47
Granite Blocks.....	1,007	725	...	282
“ Monuments.....	2,131	670	69	1,392
Grass Mats.....	41	18	4	19
Grease.....	214	3	8	203
Grindstones.....	401	40	...	361
Groceries, N.O.S.....	311	24	178	109
Gums.....	277	49	5	223
Gypsum.....	474	32	...	442
Hair.....	83	79	1	3
Hardware, N.O.S.....	2,783	1,015	444	1,324
Hatters' Fur.....	228	200	...	28
Hemp in Bales.....	80	3	...	77
“ Rope.....	105	45	20	40
Herbs.....	40	11	3	26
Hides.....	489	456	...	33

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Hinges.....	57	...	...	57
Hollow Ware.....	1,507	487	354	666
Hops.....	739	105	2	632
Incubators.....	6	6	...	...
Inks.....	94	18	21	55
Insect Powders.....	13	1	2	10
Instruments, Musical.....	791	558	106	127
" " Parts.....	9	2	...	7
" Scientific.....	239	90	5	144
Insulators.....	814	86	63	665
Iron and Steel Bars.....	12,810	2,013	574	10,223
" " Mfrs. of.....	1,495	334	239	922
Iron Ore.....	54	9	10	35
" Pig.....	2,057	258	...	1,799
" Pipe.....	1,530	853	7	670
" Sand.....	131	50	42	39
" Scrap.....	1,185	...	...	1,185
" Sheet.....	1,210	497	...	713
" Skelp.....	5,497	4,921	...	576
Jewellery.....	56	33	17	6
Jute Cloth.....	4,078	423	42	3,613
Jute Rugs.....	91	64	14	13
Lamp Black.....	25	...	2	23
Lamps and Lanterns.....	615	73	247	295
Lard.....	27	...	27	...
Lawn Mowers.....	6	6	...	...
Lead, Acetate of.....	24	...	...	24
" Mfrs. of.....	33	12	...	21
" Nitrate of.....	43	...	7	36
" Oxide.....	36	...	36	...
" Pig.....	347	...	...	347
" Pipe.....	81	9	...	72
" Sheet.....	627	38	...	589
" Shot.....	6	6	...	...
Leather in Bales.....	254	139	31	84
" Mfrs. of N.O.S.....	943	453	142	348
Leaves, Dried.....	9	...	4	5
Lentils.....	44	2	22	20
Life Buoys.....	48	3	2	43

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Lime Juice.....	114	...	44	70
Lime, Carbonate of.....	39	...	...	39
“ Chloride of.....	173	...	21	152
“ Stone.....	55	55	...	...
Linoleum.....	429	125	190	114
Liquors, Intoxicating.....	18,416	227	11,432	6,757
Litharge.....	203	23	...	180
Lithopone.....	3,917	768	263	2,886
Livestock.....	65	33	...	32
Lobsters in tins.....	24	...	...	24
Locomotive Parts.....	7	...	...	7
Macaroni.....	183	...	3	180
Mace.....	24	...	15	9
Machinery.....	10,687	6,494	297	3,896
Machines, Sewing.....	294	286	4	4
“ Washing.....	5	5	...	...
Magnesia.....	287	38	2	247
Magnesite.....	7	1	...	6
Mahogany Logs and Boards.....	1,100	978	14	108
Malt.....	117	5	...	112
Malt Extract.....	190	32	28	130
Manganese Ore.....	88,720	...	88,720	...
Marble.....	3,061	45	39	2,977
Marble Chips.....	1,004	22	...	982
Marble Slabs.....	1,325	338	...	987
Marmalade.....	29	...	23	6
Meal, Bone.....	60	50	...	10
Meal, N.O.S.....	103	25	...	78
Meat, Cured.....	36	23	8	5
Meat Extracts.....	279	...	...	279
Meat, Fresh or Frozen.....	155	23	...	132
Meat in tins.....	3,511	...	343	3,168
Meters.....	24	18	...	6
Mica.....	3	1	...	2
Milk in tins.....	12	7	5	...
Millboard.....	53	6	...	47
Millinery.....	4,130	2,535	377	1,218
Mineral Waters.....	2,774	517	112	2,145
Molasses.....	27,868	138	20	27,710
Molassine Meal.....	50	30	3	17
Moss.....	29	..	..	29

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Motor Boats.....	56	56	...	...
Motorcycles.....	164	135	...	29
Mushrooms.....	291	67	60	164
Mustard.....	230	3	200	27
Mustard Bran.....	20	...	5	15
Mustard Seed.....	129	33	61	35
Nails.....	4	1	...	3
Naphthaline.....	92	7	12	73
Nickel Matte.....	61	61	...	...
Nickel Potassium.....	601	601	...	...
Nickel Sheets.....	32	4	...	28
Nickel Sodium.....	59	59	...	...
Nickel Sulphate.....	24	19	2	3
Nicotine.....	5	..	...	5
Notions.....	2,030	605	527	898
Nuts and Bolts.....	11	5	2	4
Nuts, edible.....	4,317	367	2,093	1,857
Nutmegs.....	40	2	4	34
Oakum.....	52	1	25	26
Oil, Bean.....	507	...	...	507
" Carbolie.....	40	...	40	...
" Castor.....	611	226	73	312
" Coconut.....	343	29	11	303
" Cod Liver.....	811	273	63	475
" Colza.....	27	...	...	27
" Cotton Seed.....	1,064	471	...	593
" Essential.....	310	82	58	170
" Linseed.....	59	8	1	50
" Lubricating.....	561	238	168	155
" Olco.....	5	...	4	1
" Olive.....	1,865	73	388	1,404
" Palm.....	434	420	...	14
" Peanut.....	761	425	...	336
" Petroleum.....	940,592	...	...	940,592
" Rape.....	29	15	3	11
" Seal.....	189	16	...	173
" Various, N.O.S.....	313	81	117	115
" Whale.....	16	...	...	16
Oilcake Meal, N.O.S.....	26	26	...	...
Oilman's Stores.....	192	1	72	119

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Olives.....	271	...	271	...
Ovaltine.....	324	260	64	...
Paints.....	525	54	121	350
Paint Stiffener.....	141	...	63	78
Paper Bags.....	72	34	30	8
Paper, Blotting.....	95	...	71	24
“ Greaseproof	52	...	...	52
“ Mfrs. of N.O.S.....	3,200	761	456	1,983
“ Printing.....	1,111	478	412	221
“ Stock.....	648	555	...	93
“ Wall.....	380	226	43	111
“ Wrapping.....	1,701	195	497	1,009
Paris Green.....	81	...	75	6
Peanuts.....	48	...	...	48
Peas.....	2,289	165	1	2,123
Peas, split.....	170	...	32	138
Peat Moss.....	588	213	24	351
Pebbles.....	521	521	...	...
Peels.....	250	8	178	64
Pepper.....	227	26	39	162
Perfumery.....	311	64	16	231
Peroxide.....	40	3	4	33
Phosphate of Lime.....	37	...	...	37
Phosphates, N.O.S.....	22,418	...	...	22,418
Photo Sundries.....	163	108	11	44
Piassava.....	44	19	...	25
Pickles.....	280	120	81	79
Pictures and Frames.....	434	73	58	303
Pimento.....	261	18	46	197
Pipe Fittings.....	192	3	...	189
Pipes, tobacco.....	551	77	5	469
Pipes, tobacco clay.....	38	4	2	32
Pitch.....	48	10	1	37
Plasticine.....	13	3	10	...
Plumbago.....	9	...	...	9
Plywood.....	18	...	15	3
Polishes.....	362	24	195	143
Potash Carbonate.....	48	...	6	42
Potash, Caustic.....	184	...	26	158
Potash, Chlorate of.....	459	35	...	424
“ Muriate of	10,208	1,203	4,209	4,796

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Potash, Nitrate.....	373	121	111	141
“ Sulphate.....	1,313	300	408	605
“ N.O.S.....	242	55	3	184
Preserves, N.O.S.....	744	61	453	230
Printed Matter.....	107	55	19	33
Propellors.....	17	7	...	10
Pulleys and Blocks.....	60	49	1	10
Pulpboard.....	18	12	2	4
Pulpstones.....	86	86	...	...
Pumice Stone.....	135	...	...	135
Putty.....	825	57	121	647
Quarries.....	284	19	265	...
Rabbit, Frozen.....	13	13	...	...
“ in tins.....	112	41	...	71
Radio and Parts.....	35	12	...	23
Rags.....	2,315	138	267	1,910
Rattans.....	42	12	3	27
Razors and Parts.....	4	3	...	1
Rennett.....	23	9	...	14
Resin.....	52	22	...	30
Rice.....	1,545	2	38	1,505
Rice, Unhulled.....	418	...	...	418
Rivets.....	3	...	...	3
Roots.....	65	65	...	...
Rope.....	491	83	43	365
Rubber, Mfrs. of.....	419	171	132	116
Rubber Scrap.....	9	1	8	...
Saddlery.....	28	14	6	8
Sal Ammoniac.....	156	46	...	110
Salt Cake.....	445	72	17	356
Salt, Coarse.....	17,876	...	34	17,842
Salt, Fine.....	28	24	4	...
Salts, Bath.....	81	6	71	4
“ Epsom.....	1,221	112	200	909
“ Gravy.....	20	19	1	...
“ Glauber.....	807	39	...	768
“ Health.....	318	46	272	...
“ Rochelle.....	65	6	...	59
Sand.....	27,198	...	...	27,198

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Sandpaper.....	9	...	7	2
Satinwood.....	29	29	...	...
Sauces.....	687	88	372	227
Scales.....	48	5	38	5
Screws.....	7	...	...	7
Seed, Garden.....	652	355	129	168
" Caraway.....	132	...	38	94
" Coriander.....	3	...	3	...
" Poppy.....	38	2	12	24
" Rape.....	39	...	39	...
" N.O.S.....	105	70	...	35
Sheep Dip.....	7	3	1	3
Sheep Shins.....	13	1	...	12
Shoe Shanks.....	9	...	...	9
Shortening.....	10	..	7	3
Silica.....	83	2	...	81
Silk Waste.....	7	3	...	4
Silverware.....	759	322	111	326
Sisal.....	92	...	...	92
Slate.....	181	36	...	145
Soap, Carbolic.....	26	26	...	...
" Castile.....	126	...	6	120
" Common.....	329	112	202	15
" Liquid.....	48	19	10	19
" Powder.....	11	..	..	11
" Soft.....	7	...	...	7
" Toilet.....	267	107	78	82
Soda Acetate.....	10	...	...	10
" Bicarbonate of.....	13	13	...	...
" Bichromate of.....	103	15	...	88
" Caustic.....	952	...	...	952
" Chlorate of.....	1,263	389	29	845
" Nitrate of.....	2,957	234	94	2,629
" N.O.S.....	108	45	12	51
" Phosphate of.....	372	192	5	175
" Prussiate of.....	86	...	...	86
" Silicate of.....	57	..	4	53
" Sulphate of.....	734	142	282	310
Soot.....	3	...	...	3
Soup, in tins.....	38	...	...	38
Speigeleisen.....	3,024	..	...	3,024
Spelter.....	335	..	335	...

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Spices.....	162	30	14	118
Sponges.....	142	39	9	94
Sporting Goods.....	364	236	25	103
Starch.....	302	4	139	159
Statice.....	102	75	..	27
Stationery.....	689	280	197	212
Statuary.....	836	247	38	551
Stearine.....	122	20	6	96
Steel Angles.....	4,386	58	..	4,238
“ Balls.....	1,148	781	..	367
“ Bands.....	497	35	7	455
“ Beams.....	3,334	334	44	2,956
“ Billets and Blooms.....	662	503	5	154
“ Channels.....	1,709	..	..	1,709
“ Discs.....	22	22	..	..
“ Hoops.....	1,062	221	54	787
“ Joists.....	1,136	..	..	1,136
“ Plates.....	17,993	2,787	164	15,042
“ Rods.....	9	7	..	2
“ Rails.....	251	..	..	251
“ Rollers.....	10	9	1	..
“ Sheets.....	28,621	1,037	1,574	26,010
“ Strips.....	436	58	2	376
“ Structural.....	3,337	653	344	2,340
“ Tees.....	414	190	..	224
“ Tubing.....	2,663	458	14	2,191
“ Tyres.....	2,439	596	3	1,840
Stone, crushed.....	50	..	..	50
“ Mfrs. of.....	11	11	..	..
“ unmanufactured.....	4,331	1,904	23	2,404
Stoves.....	70	62	2	6
Strawboard.....	330	123	1	206
Straw Covers.....	235	..	2	233
Sugar of Milk.....	9	3	..	6
Sugar, raw.....	208,107	346	464	207,297
Sulphate of Alumina.....	796	642	74	80
“ “ Ammonia.....	76	..	12	64
“ “ Copper.....	41	..	16	25
“ “ Iron.....	30	..	..	30
Sulphur.....	31,375	..	..	31,375
Sundries.....	668	131	272	265
Super Phosphate.....	317	..	..	317

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Syphons.....	7	2	...	5
Syrups.....	23	...	8	15
Syrup, corn.....	251	10	187	54
Talc.....	291	66	7	218
Tanks.....	72	66	...	6
Tanners' Bate.....	41	...	...	41
Tanners' Extracts.....	122	...	...	122
Tapioca.....	44	2	...	42
Tar.....	136	...	8	128
Tea.....	11,554	770	1,864	8,920
Terra Cotta.....	124	4	17	103
Threads.....	469	73	24	372
Tiles.....	3,704	557	445	2,702
Timonax.....	38	2	...	36
Tins, empty.....	354	58	39	257
Tin Foil.....	21	6	...	15
“ Ingots.....	323	22	...	301
“ Oxide of.....	13	13	...	...
“ Perchloride of.....	6	6	...	..
Tin Plate.....	13,500	672	20	12,808
Tin Tubes.....	35	4	...	31
Tin Ware.....	255	103	50	102
Tobacco Leaf.....	232	...	1	231
“ Mfrs. of.....	217	56	18	143
Tobacconists' Sundries.....	556	36	14	506
Toilet Articles.....	403	42	181	180
Tomato Paste.....	403	...	...	403
Tools.....	369	65	67	237
Toys.....	20,115	5,624	5,917	8,574
Tractors and Parts.....	182	...	164	18
Trucks.....	119	31	...	88
Trunks.....	7	6	1	...
Turmeric.....	18	...	13	5
Turpentine.....	79	78	...	1
Twine, Binder.....	4,162	21	3,206	935
“ Cotton.....	220	54	15	151
“ Hemp.....	7	3	...	4
“ Jute.....	169	...	...	169
Twist Jute.....	25	4	...	21
Typewriters.....	42	42	...	...

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Umbrellas	8	...	2	6
Valves	144	39	4	101
Varnishes	197	10	23	164
Vegetables in brine	104	27	27	50
“ in tins	2,102	133	152	1,817
“ , raw	4,137	963	242	2,932
Vegetable Fat	136	19	...	117
Vinegar in barrels	18	2	14	2
“ in glass	31	...	22	9
Wadding	452	452	...	...
Waggon	6	...	...	6
Watches	16	1	...	15
Wax	781	22	3	756
Wheels	438	61	4	373
Whiting	7,788	3,524	670	3,594
Willows	14	12	2	...
Window Frames	1,056	776	44	236
“ Rollers	27	23	...	4
“ Shades	6	...	4	2
Wines	8,221	303	1,669	6,249
Wire, Barbed	223	18	145	60
“ Cloth	132	56	3	73
“ Coils	3,986	885	336	2,765
“ Fencing	46	...	...	46
“ in barrels	172	46	3	123
“ Mfrs. of	99	9	12	78
“ Netting	577	130	104	343
“ Phosphor	32	32	...	...
“ Rods	4,564	56	57	4,451
“ Rope	1,124	175	82	867
Woodenware	983	568	225	190
Woodpulp	28,067	1,033	13	27,021
Wood Wool	13	7	6	...
Wool	1,216	1,044	131	41
“ Grease	64	4	15	45
“ Greasy	135	127	...	8
“ Slips	147	147	...	...
“ Scoured	124	114	8	2
“ Tops and Noils	1,540	1,369	165	6
“ Waste	311	189	33	89

Distribution after Import

COMMODITY	Total Tons	Rail	Vessel	Other
Yarns.....	2,104	1,228	207	669
Yeast.....	31	21	4	6
Zinc Chlorate.....	9	...	9	...
“ Chloride.....	63	...	...	63
“ Plates.....	447	...	...	447
“ Sulphate.....	246	...	130	116
“ Sheets.....	437	64	24	349
“ White.....	599	...	...	599
	3,376,182	157,027	188,781	3,030,374

EXPORTS

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Acetic Acid.....	4,305	4,305	...	...
Acids, various.....	12	10	...	2
Adding Machines.....	40	40	...	...
Advertising Matter.....	203	110	19	74
Aeroplanes and Parts.....	661	82	...	579
Agricultural Implements.....	5,778	3,301	2,463	14
Alcohol, Industrial.....	57	...	...	57
Aluminum Ingots.....	499	336	163	...
“ Rods.....	58	58	...	...
“ Scrap.....	600	...	542	58
“ Sheets.....	787	233	554	...
“ Ware.....	34	18	16	...
“ Wire.....	384	384	...	...
Ammonia.....	11	...	9	2
“ Sulphate of.....	3,849	3,817	...	32
Ammunition.....	7	7	...	...
Animal Foods, N.O.S.....	1,902	819	3	1,080
Animals, Small.....	233	233	...	...
Asbestos Fibre.....	11,880	11,880	...	...
“ Mfrs. of.....	35	20	...	15
Asphalt.....	295	...	...	295

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Asphalt, Shingles	369	...	...	369
Automobiles and Parts	104,424	99,023	24	5,377
Automobile Springs	45	45	...	...
Axles	7	7	...	...
Baby Carriages	15	15	...	...
Bags and Bagging, Jute	709	31	82	596
Bags, Paper	79	28	..	51
Baking Powder	38	4	31	3
Barley Meal	36	35	...	1
Barrels and Drums, empty	2,724	907	...	1,817
Basketware	25	18	...	7
Batteries	650	331	172	147
Bedding	811	71	..	740
Bee Comb Foundation	22	3	..	19
Beers	134	...	...	134
Bicarbonate of Soda	23	...	...	23
Bicycles and Parts	190	185	3	3
Biscuits	141	131	...	10
Blackboards	18	1	...	17
Blocks, Maple	419	419	..	...
" Pine	211	211	...	...
Boats	215	215	...	...
Bobbin Wood	54	54	...	...
Boiler Compound	7	...	7	..
" parts	175	111	..	64
Bone Black	94	94	..	...
Books	96	60	2	34
Boots and Shoes	91	56	1	34
Bottles, empty	136	5	...	131
Box Board	1,260	1,260	..	...
Boxes, empty	83	31	...	52
Bran	709	127	..	582
Brass, Mfrs. of	12	7	5	..
" Scrap	154	...	..	154
Brick	66	..	22	44
Bronze Ingots	7	7	..	..
" Powder	126	..	1	125
Brooms and Brushes	72	36	23	13
Butter	139	7	1	131
Buttermilk	119	74	28	17
Buttons	9	..	..	9

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Canned Goods, N.O.S.....	1,692	711	656	325
Capsules.....	117	15	91	11
Captax.....	12	12	...	...
Carbide.....	685	685	...	...
Carborundum Sand.....	491	491	...	...
Cardboard.....	24	1	...	23
Carpets.....	199	189	4	6
Cash Registers.....	31	31	...	...
Casings, Sausage.....	975	631	121	223
Castings.....	10	7	...	3
Catsup.....	2,559	2,422	123	14
Cement, Building.....	22,450	363	4	22,083
Cereals.....	5,767	5,765	...	2
Chains.....	226	155	57	14
Cheese.....	39,405	3,746	241	35,418
Chemicals, N.O.S.....	558	443	15	100
Chimney Blocks.....	31	...	...	31
Chinaware.....	19	7	10	2
Church Ornaments.....	7	...	...	7
Clay, Fire.....	17	...	...	17
Clocks.....	93	90	...	3
Clothes Pins.....	219	51	...	168
Cobalt Ore.....	1,055	1,055	...	...
Cobalt Oxide.....	18	18	...	...
Coke.....	29	...	...	29
Confectionery, N.O.S.....	266	146	82	38
Copper Billets.....	124	115	...	9
“ Mfrs. of.....	6	6	...	...
“ Matte.....	16,627	16,627	...	...
“ Scrap.....	291	...	...	291
“ Sheets.....	12	12	...	...
“ Wire.....	43	8	...	35
Cordage.....	9	9	...	...
Corkboard.....	28	...	...	28
Corn, Cracked.....	36	...	...	36
“ Meal.....	189	...	...	189
“ Starch.....	80	33	47	...
Cotton, Raw.....	173	109	15	49
“ Waste.....	9	3	...	6
Cream Separators.....	226	63	1	162
Cutlery.....	10	9	...	1
Cyanide.....	436	436	...	...

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Cylinders, empty.....	7	4	...	3
Disinfectants.....	6	1	3	2
Dowels.....	388	387	...	1
Drugs and Medicines.....	614	141	133	340
Druggists' Sundries.....	333	280	2	51
Dry Colours.....	156	23	1	132
Dry Goods.....	1,494	661	129	704
Dyes.....	24	...	15	9
Dynamite.....	143	47	...	96
Earthenware.....	31	6	2	23
Effects, Settlers'.....	1,371	662	148	561
Eggs.....	1,801	1,795	...	6
Egg Fillers.....	68	68	...	...
Electrical Apparatus.....	3,148	1,268	1,817	63
Electric Ranges and Parts.....	288	287	...	1
Engines, Oil.....	18	11	4	3
Exhibits.....	47	47	...	...
Extracts.....	391	301	22	68
Feldspar.....	50	50	...	...
Felt.....	1,017	994	...	23
Fibreboard.....	1,503	1,500	...	3
Fire Arms.....	14	10	...	4
Fish, Cured.....	1,901	61	...	1,840
" Fresh or frozen.....	1,596	1,565	...	31
" in tins.....	451	446	...	5
" Meal.....	207	207	...	...
Flooring, Hardwood.....	1,449	1,413	...	36
Flour.....	302,540	123,497	3,638	175,405
Fruit, Dried.....	157	85	20	52
" in tins.....	635	166	442	27
" Juices.....	281	272	...	9
" Pectin.....	684	684	...	...
" Pulp.....	505	505	...	...
" Raw.....	61,581	60,985	344	252
" Syrups.....	12	2	10	...
Furniture.....	2,567	2,470	1	96
Furs.....	214	146	1	67
Fur Waste.....	5	...	...	5
Garden Bulbs.....	1,311	1,299	3	9

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Gasoline.....	74	...	...	74
Glassware.....	73	21	3	49
Glucose.....	110	109	...	1
Glue.....	26	26	..	..
Grain in Bags:—				
Corn.....	442	...	...	442
Oats.....	6,793	2,185	...	4,608
Wheat.....	9,683	...	...	9,683
Grain in Bulk:—				
Barley.....	19,013	...	19,013	..
Buckwheat.....	295	...	295	..
Corn.....	2,640	...	2,640	..
Oats.....	18,160	...	18,160	..
Rye.....	17,307	..	17,307	..
Wheat.....	1,973,493	...	1,973,493	...
Graphite.....	198	198	...	..
Grease.....	592	585	4	3
Grindstones.....	25	18	5	2
Groceries, N.O.S.....	518	423	18	77
Gum, Chewing.....	151	137	14	...
Gypsum Plaster.....	3,066	3,041	...	25
Hair.....	608	603	...	5
Handles, Wooden.....	780	743	14	23
Hardware.....	1,567	1,222	81	264
Hay.....	26,587	7,056	12,024	7,507
Hides.....	129	56	10	63
Hollow Ware.....	107	66	22	19
Honey.....	741	421	80	240
Hops.....	399	374	...	25
Horse Shoes.....	45	..	..	45
Incubators.....	100	100	...	..
Inks.....	171	4	81	86
Insect Powder.....	5	...	1	4
Instruments, Musical.....	301	241	...	60
“ Scientific.....	102	85	...	17
Insulators.....	1,205	655	543	7
Iron Bars.....	775	98	...	677
Iron, Mfrs. of.....	338	232	...	106
“ Piping.....	4,719	1,753	10	2,956
“ Scrap.....	320	124	...	196

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Lamps and Lanterns.....	107	36	57	14
Lard.....	50,094	50,084	1	9
Last Blocks.....	17	...	...	17
Lawn Mowers.....	75	37	10	28
Lead, Mfrs. of.....	21	...	...	21
Leather, in bundles.....	113	86	3	24
" Mfrs. of.....	535	436	48	51
" Scrap.....	6	...	6	...
Linoleum.....	293	...	...	293
Liquors.....	21,784	19,727	575	1,482
Livestock.....	2,569	2,569	...	...
Lobster, in tins.....	850	680	...	170
Macaroni.....	219	62	...	157
Machinery.....	3,072	2,590	236	246
Machines, Sewing and Parts....	2,394	2,358	...	36
Magnesia, Milk of.....	779	35	744	...
Magnesite.....	1,768	1,762	...	6
Malt.....	89	67	...	22
Maple Strips.....	700	610	...	90
Marble Dust.....	11	...	11	...
Match Splints.....	2,114	2,114	...	...
Meals, N.O.S.....	889	885	...	...
Meat, Cured.....	37,848	37,437	180	234
" Fresh or frozen.....	1,653	1,386	...	267
" in tins.....	2,796	2,727	...	69
Meters.....	52	15	35	2
Middlings.....	137	2	...	135
Milk, in tins.....	3,705	1,941	1,568	196
" Powdered.....	916	907	2	7
Millinery.....	22	13	...	9
Mineral Waters.....	175	...	...	175
Motorcycles.....	10	1	...	9
Mustard.....	20	13	...	7
Nails.....	755	102	1	652
Nickel, N.O.S.....	13	12	1	...
" Oxide.....	353	353	...	...
" Ore.....	32	32	...	...
" Slabs.....	296	296	...	...
Nuts and Bolts.....	155	7	...	148
Nuts, Edible.....	8	8	...	...

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Oat Feed.....	14	14	...	...
Oats, Rolled.....	12,129	12,129	...	...
Oil Cake.....	2,740	28	...	2,712
“ Cod Liver.....	7	2	5	...
“ Fuel.....	87	...	...	87
“ Lard.....	27	27	...	...
“ Linseed.....	58	...	...	58
“ Lubricating.....	205	18	...	187
“ Oleo.....	1,339	1,276	63	...
“ Various, N.O.S.....	360	68	14	278
Ores, various.....	170	170	...	...
Oxides.....	46	46	...	...
Paints.....	77	38	6	33
Paperboard.....	544	464	...	80
Paper, Mfrs. of.....	435	317	15	103
“ Printing.....	46,320	46,164	21	135
“ Roofing.....	226	...	...	226
“ Wall.....	575	273	154	148
“ Wrapping.....	5,008	4,735	...	273
Peanuts.....	21	9	12	...
Peas.....	312	297	...	15
“ Split.....	51	51	...	...
Phosphorus.....	2,505	1,942	223	340
Photo Supplies.....	804	519	274	11
Pickles.....	52	51	1	...
Pictures and Frames.....	29	23	...	6
Pipe Fittings.....	273	146	...	127
Pitch.....	28	28	...	...
Plasterboard.....	2,070	1,914	...	156
Polishes.....	31	5	5	21
Pollard.....	54	5	...	49
Potash.....	5	...	...	5
Poultry.....	19	2	...	17
Preserves.....	87	85	2	...
Propellers.....	8	8	...	...
Pulpboard.....	3,990	3,976	...	14
Putty.....	14	2	...	12
Radiators.....	121	6	1	114
Radio Parts.....	133	130	...	3
Railway Cars and Parts.....	529	529	...	...

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Rags.....	882	32	371	479
Razors and Parts.....	15	2	...	13
Refrigerators.....	794	718	10	66
Releaseall.....	25	...	...	25
Rennet.....	4	...	...	4
Resin.....	17	4	11	2
Rice.....	97	...	...	97
“ Meal.....	336	...	...	336
Roofing Felt.....	641	490	...	151
Rubber, Mfrs. of.....	26,985	18,057	3,425	5,503
“ Scrap.....	62	...	...	62
Safes.....	9	3	6	...
Salt, Coarse.....	62	18	...	44
“ Fine.....	1,724	1,699	12	13
Salts, Health.....	44	36	8	...
Sand.....	324	324	...	...
Sausages.....	14	6	...	8
Sawdust.....	11	...	...	11
Scales.....	32	32	...	...
Screenings.....	28	...	...	28
Seeds.....	1,244	748	481	15
Seneca Root.....	37	37	...	...
Shawinigan Black.....	649	649	...	...
Sheep Skins.....	38	36	...	2
Shingles, N.O.S.....	23	20	...	3
Ship Stores.....	7,509	...	...	7,509
Shoe Counters.....	62	...	...	62
“ Shanks.....	23	20	...	3
Shooks.....	1,882	1,855	5	22
Shorts.....	211	31	...	180
Silver Bars.....	9	...	...	9
“ Ore.....	132	77	...	55
“ Ware.....	10	4	...	6
Skewers.....	29	29	...	...
Soap, Liquid.....	6	6	...	...
“ Powders.....	18	...	...	18
“ Toilet.....	1,573	154	1,411	8
Soapstone.....	196	196	...	...
Soda, Pulp.....	63	63	...	..
Soups, in Tins.....	1,853	1,621	199	33
Sporting Goods.....	217	111	68	38

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Staples, Metal.....	195	130	...	65
Stationery.....	151	17	48	86
Statuary.....	13	...	...	13
Stearine.....	13	13	...	...
Stellite.....	10	10	...	...
Steel Beams.....	88	84	...	4
" Plates.....	35	25	...	10
" Sheets.....	24	...	...	24
" Structural.....	1,574	1,251	...	323
Stoves.....	1,842	1,685	1	156
Strawboard.....	11	...	...	11
Sugar, Maple.....	14	8	...	6
" Refined.....	875	...	...	875
Sundries.....	4,758	557	2,436	1,765
Syrup, Corn.....	864	852	12	...
" Maple.....	23	22	...	1
Talc.....	493	493	...	...
Tanners' Extract.....	9	...	...	9
Tarvia.....	206	...	...	206
Tea.....	54	2	3	49
Telegraph Poles.....	201	201	...	...
Thread.....	7	...	...	7
Tins, empty.....	72	...	...	72
Tin Scrap.....	54	47	...	7
Tinware.....	16	1	11	4
Tobacco, Raw Leaf.....	426	253	7	166
" Mfrs. of.....	16	12	...	4
Tobacconists' Sundries.....	23	...	20	3
Toilet Preparations.....	186	6	135	45
Tomato Paste.....	344	308	...	36
Tools.....	483	374	11	98
Toys.....	161	78	82	1
Tractors.....	237	237	...	...
Trucks.....	308	308	...	...
Twine, Binder.....	1,799	24	1,775	...
" Cotton.....	81	67	14	...
Valves.....	587	55	222	310
Varnishes.....	29	8	7	14
Vegetables, Raw.....	108	13	...	95
" in Tins.....	483	249	175	59

Carried Before Export

COMMODITY	Total Tons	Rail	Vessel	Other
Veneers.....	120	120	...	...
Vinegar.....	51	...	1	50
Wagons.....	35	12	20	3
Wallboard.....	3,388	3,297	...	91
Washing Machines.....	675	661	14	...
Wheels and Parts.....	206	171	33	2
Window Frames.....	21	16	...	5
Wines.....	6	6	...	...
Wire in Barrels.....	677	102	10	565
" Barbed.....	156	75	...	81
" Cable.....	115	33	...	82
" Cloth.....	118	12	79	27
" Fencing.....	518	242	201	75
" Mfrs. of.....	118	51	13	54
" Netting.....	29	13	8	8
" Rope.....	21	21	...	...
" Steel in Coils.....	2,158	1,249	37	872
Woodenware.....	1,145	1,093	26	26
Woodpulp.....	22,872	22,866	...	6
Wool.....	349	343	6	...
Yeast.....	41	17	22	2
Zinc Dross.....	187	24	...	163
Zinc Ore.....	5,315	5,315	...	...
Zinc Skimmings.....	220	...	...	220
	3,044,516	661,739	2,071,900	310,877
Lumber Exported.....	57,045			
	3,101,561			

DOMESTIC

	Total	RAIL		VESSEL		Other
	Tons	In	Out	In	Out	
Acids, N.O.S.....	594	565	...	4	25	...
Aeroplanes and Parts.....	21	11	10			...
Agricultural						
Implements.....	84	...	...	...	84	...
Alcohol, Industrial...	1,044	139	820	76	9	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Aluminum Ingots....	356	...	...	...	356	...
" Pig.....	56	...	...	...	56	...
" Ware....	23	...	...	2	21	...
Ammonia.....	102	...	...	...	102	...
Ammunition.....	42	...	...	...	42	...
Anti-Freeze.....	21	...	...	...	21	...
Asbestos.....	200	84	38	...	78	...
Asbestos, Mfrs. of...	161	...	12	...	149	...
Asphalt.....	350	40	309	...	1	...
Automobiles and Parts	112	6	...	3	103	...
Axles.....	281	273	...	1	7	...
Bagging.....	326	117	175	2	32	...
Baking Powder.....	77	71	...	...	6	...
Barrels.....	110	76	22	11	1	...
Baskets.....	170	157	7	...	6	...
Baths.....	23	21	...	...	2	...
Beans.....	117	105	...	1	11	...
Beer.....	15	...	...	...	15	...
Bicarbonate of Soda..	153	...	128	...	25	...
Bicycles.....	127	123	...	1	3	...
Biscuits.....	8	...	...	...	8	...
Boilers and Parts....	1,496	307	1,085	...	104	...
Bolts and Nuts.....	379	...	...	1	378	...
Books.....	19	...	...	...	19	...
Boots and Shoes.....	32	...	...	...	32	...
Bottles.....	472	96	...	49	327	...
Bottle, Capsules.....	73	...	...	...	73	...
Boxes.....	126	58	7	21	40	...
Bran.....	1,388	1,262	...	126	...	...
Brass, Mfrs. of.....	15	...	...	15	...	...
Bricks, Fire.....	726	488	236	...	2	...
Bricks, Terra Cotta..	1,280	1,280	...	...	...	...
Brooms.....	34	33	...	...	1	...
Bronze Powder.....	39	...	...	...	39	...
Butter.....	61	44	16	1	...	...
Canned Goods,N.O.S.	130	33	13	6	78	...
Carbide.....	328	30	...	...	298	...
Cardboard.....	29	...	...	...	29	...
Castings.....	620	535	57	...	28	...
Cement.....	82,994	163	12,705	7,799	61,110	1,217
Cereals.....	303	303	...	...	...	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Chains.....	305	...	...	1	304	...
Charcoal.....	67	...	66	...	1	...
Cheese.....	3,174	...	3,173	...	1	...
Chemicals, N.O.S....	103	55	...	...	48	...
Chicory.....	8	...	...	1	7	...
Chloride of Calcium..	347	117	...	...	230	...
Church Goods.....	43	27	16	...	...	...
Cigarettes.....	171	...	...	...	171	...
Cinders.....	29	...	29	...	...	...
Cleansers.....	824	425	...	...	399	...
Coal, Anthracite....	64,416	64,416	...	...	...	...
Coal, Bituminous....	1,413,442	5,879	...	1,407,345	110	108
Cocoa.....	64	...	...	...	64	...
Coke.....	1,108	1,056	...	...	52	...
Confectionery.....	45	20	...	5	20	...
Copper Sheets.....	8	...	...	...	8	...
Corkwood.....	26	10	...	...	16	...
Cornstarch.....	103	...	...	...	103	...
Cottonseed Hulls....	73	73	...	...	...	...
Cotton Waste.....	608	557	49	...	2	...
Cream Separators....	178	178	...	...	...	...
Crockery.....	88	52	...	...	36	...
Disinfectants.....	24	...	...	...	24	...
Drugs.....	292	...	...	1	291	...
Dry Goods.....	312	11	...	2	299	...
Eggs.....	1,106	1,100	...	...	6	...
Earthenware.....	104	59	...	2	43	...
Electrical Apparatus.	136	...	...	2	134	...
Enamelware.....	464	426	...	...	38	...
Explosives.....	101	101	...	...	...	...
Extracts.....	21	...	...	...	21	...
Feathers.....	11	...	...	11	...	...
Feed.....	146	146	...	...	...	...
Felt.....	10	...	...	...	10	...
Fertilizers.....	33	...	20	...	13	...
Fire Extinguishers...	18	...	...	...	18	...
Fish, Cured.....	94	...	...	93	1	...
Fish, Fresh.....	13	13	...	...	...	...
Fish in Tins.....	3,299	186	...	2,904	209	...
Fish Plates.....	12	...	...	...	12	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Flax.....	7,768	7,768	...	...	...	...
Flour.....	28,075	3,138	192	23,996	749	...
Forgings.....	143	141	...	...	2	...
Fruit, Dried.....	121	95	...	15	11	...
“ Green.....	3,403	2,968	407	6	22	...
“ in Glass.....	64	...	...	...	64	...
“ in Tins.....	1,135	44	...	843	248	...
Furniture.....	442	110	89	18	225	...
Gasoline.....	204,760	54	41,610	38,411	124,685	...
Gear.....	450	218	232	...	...	...
Glass Jars.....	13	...	...	5	8	...
Glass Sheet.....	102	60	...	1	41	...
Glassware.....	93	53	...	2	38	...
Glucose.....	470	...	...	...	470	...
Glue.....	63	...	...	7	56	...
Grain in Bags.....	1,426	51	...	998	377	...
Grain for Local Delivery.....	297,232	15,634	...	281,598	...	...
Grease.....	34	19	...	1	14	...
Grindstones.....	7	...	...	...	7	...
Groceries.....	483	294	10	2	177	...
Gypsum.....	70,850	..	...	70,850	...	...
Handles, Wooden....	147	107	...	4	36	...
Hardware.....	384	5	...	11	367	1
Hardwood.....	69	..	...	1	68	...
Hides.....	67	...	...	9	58	...
Honey.....	209	19	...	4	186	...
Hops.....	40	...	...	8	32	...
Horse Shoes.....	90	...	...	...	90	...
Ink.....	110	...	...	..	110	...
Instruments, Musical.....	62	...	...	5	57	...
Iron Bars.....	749	539	52	3	155	...
“ Pipes.....	706	62	...	...	644	...
“ Sheets.....	3,401	673	1,839	858	31	...
Kalsomine.....	36	...	..	..	36	...
Lard.....	1,387	1,238	...	...	149	...
Lead.....	29	...	...	...	29	...
Leather.....	20	..	...	2	18	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Lime.....	597	572	5	...	20	...
Liquors.....	631	174	314	142	1	...
Livestock.....	9	...	...	...	9	...
Lye.....	37	37	...	...	...	...
Macaroni.....	86	...	...	53	33	...
Magnesia.....	42	...	...	...	42	...
Machinery.....	3,902	1,047	1,545	5	1,146	159
Mahogany Boards...	17	...	...	...	...	17
Marble Slabs.....	233	233	...	...	...	...
Matches.....	41	...	...	...	41	...
Meal.....	4,194	161	3,995	...	38	...
Meat, Cured.....	232	200	22	...	10	...
Meat Extracts.....	75	...	...	...	75	...
" Fresh.....	981	963	16	...	2	...
" in Tins.....	402	17	..	5	380	...
Metalware.....	556	532	...	15	9	...
Middlings.....	2,892	1,436	369	1,078	9	...
Milk, in Tins.....	231	225	..	1	5	...
Milk Powder.....	75	60	...	...	15	...
Mineral Waters.....	57	...	14	...	43	...
Molasses.....	13,294	57	13,226	...	11	...
Nails.....	1,872	20	66	6	1,780	...
Naphthaline.....	1,369	...	...	1,369	...	...
Nuts, Edible.....	21	15	...	3	3	...
Oakum.....	55	54	...	...	1	...
Oats, Rolled.....	1,395	546	158	691	...	...
Oil Cake.....	200	...	200	...	...	...
Oil, Coal.....	390	...	359	...	31	...
" Crude.....	44,256	705	1,270	...	42,281	...
" Fuel.....	284,539	852	2,384	20,314	260,989	...
" Linseed.....	505	16	355	12	122	...
" Lubricating....	1,291	831	385	47	28	...
" N.O.S.....	95	...	...	17	78	...
" Petroleum.....	3,519	...	...	1,406	2,113	...
" Refined.....	19,767	34	...	11,118	8,615	...
" Tar.....	846	...	846	...	...	...
Ovens.....	8	...	...	8	...	...
Oyster Shells.....	20	20	...	...	...	...
Paint.....	1,063	139	40	3	881	...
Paper Bags.....	121	118	...	...	3	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Paper, Mfrs. of.....	246	...	11	48	187	...
“ Printing.....	67	12	...	...	55	...
“ Roofing.....	946	32	...	...	914	...
“ Stock.....	2,121	90	2,031	...	...	...
“ Toilet.....	107	...	...	83	24	...
“ Wall.....	272	...	...	17	255	...
“ Wrapping.....	302	167	...	...	135	...
Peas, in Bags.....	45	...	...	40	5	...
Phosphates.....	151	151	...	...	...	...
Pickles.....	78	15	...	...	63	...
Pipe Fittings.....	1,355	...	...	...	1,355	...
Pipe, Galvanized....	1,281	...	...	...	1,281	...
Plaster.....	227	196	30	...	1	...
Polishes.....	140	...	...	...	140	...
Poultry.....	233	233	...	...	...	...
Poultry Feed.....	126	107	...	...	19	...
Preserves.....	266	165	...	2	99	...
Printed Matter.....	16	...	...	...	16	...
Pulleys.....	15	...	...	...	15	...
Radiators.....	14	...	...	...	14	...
Radios.....	20	7	...	...	13	...
Rags.....	4,111	624	3,487	...	...	...
Refrigerators.....	110	103	7	...	...	...
Refining Earth.....	450	450	...	...	...	...
Rice.....	569	...	...	404	165	...
Rivets.....	231	89	81	...	57	4
Rope.....	33	11	15	1	6	...
Rubber, Mfrs. of....	96	...	25	2	69	...
Salt, Fine.....	3,199	3,195	...	3	1	...
“ Coarse.....	311	272	...	...	34	5
“ Health.....	54	...	...	...	54	...
Sand.....	58,721	563	...	47,611	...	10,547
Sauces.....	181	16	26	...	139	...
Scrap Brass.....	146	79	67	...	...	...
Scrap Copper.....	56	56	...	...	...	...
“ Iron.....	337	172	165	...	...	...
“ Leather.....	31	...	31	...	...	...
“ Rubber.....	22	...	22	...	...	...
“ Steel.....	13,582	7,696	5,405	...	481	...
Scrap Tin.....	39	...	...	39	...	...
Seeds.....	96	19	...	...	77	...
Sewing Machines....	66	...	...	...	66	...

	Total Tons	RAIL		VESSEL		
		In	Out	In	Out	Other
Shingles.....	269	...	...	...	269	...
Ship Stores.....	320	...	207	...	113	...
Shooks.....	786	774	...	...	12	...
Shorts.....	2,811	1,280	...	1,489	42	...
Shortening.....	128	...	...	...	126	2
Slag.....	140	...	140	...	...	...
Soap, Common.....	796	506	...	5	285	...
“ Toilet.....	501	490	...	...	11	...
Soda Ash.....	132	110	...	...	22	...
Soda, Sal.....	301	243	...	...	58	...
Soup in Tins.....	41	31	...	...	10	...
Spices.....	8	...	...	...	8	...
Spikes.....	338	...	91	...	247	...
Spoolwood.....	730	730	...	...	...	...
Staples, Metal.....	60	...	...	...	60	...
Starch.....	429	94	...	...	269	66
Stationery.....	195	...	...	1	183	11
Steel Angles.....	1,024	818	203	...	...	3
“ Bars.....	7,663	701	6,573	2	61	326
“ Beams.....	1,205	977	41	...	...	187
“ Billets and Blooms.....	25,464	25,464	...	...	...	...
“ Channels.....	253	177	...	...	27	49
“ Cylinders.....	490	...	61	...	...	429
“ Drums.....	460	296	94	59	11	...
“ Jacks.....	33	...	33	...	...	...
“ Plates.....	3,797	3,094	607	...	27	69
“ Rails.....	3,799	3,734	50	4	11	...
“ Rods.....	9,070	2,483	5,938	...	373	276
“ Structural.....	7,064	694	5,652	...	...	718
“ Tanks.....	770	...	768	...	2	...
“ Tubes.....	109	...	...	...	109	...
Stone, Crushed.....	47,073	555	...	...	23,353	23,165
“ Cut.....	121	121	...	...	...	...
Stoneware.....	38	38	...	...	...	...
Stoves.....	160	156	...	...	4	...
Sugar.....	77,381	1,117	13,128	28,766	34,370	...
Sulphate of Ammonia	849	25	824	...	...	...
Syrup, Corn.....	128	8	...	1	104	15
“ Maple.....	50	...	16	...	26	8
Sundries.....	389	132	2	54	183	18
Tapioca.....	26	...	...	20	6	...
Tar.....	3,688	...	594	...	3,094	...

	Total Tons	RAIL		VESSEL		Other
		In	Out	In	Out	
Tea.....	211	45	100	...	66	...
Teakwood.....	14	...	...	14	...	...
Thread.....	8	8	...	...	...	...
Tin Ingots.....	5	...	...	...	5	...
Tinware.....	122	112	...	...	10	...
Tobacco.....	691	465	42	...	184	...
Toys.....	22	...	...	...	22	...
Trucks.....	32	...	32	...	...	...
Turpentine.....	15	...	...	...	15	...
Twine.....	31	...	...	...	31	...
Valves.....	147	32	20	...	95	...
Varnishes.....	27	...	...	3	24	...
Vegetables, Green....	20,653	18,924	1,339	...	390	...
Vegetables, in Tins...	1,251	206	...	133	912	...
Vinegar.....	228	...	...	...	228	...
Wallboard.....	193	167	...	...	26	...
Washers.....	18	...	...	...	18	...
Washing Compound..	214	...	...	...	214	...
Washing Machines...	29	29	...	...	...	...
Water Meters.....	8	...	...	...	8	...
Wax.....	82	...	...	...	82	...
Wheels.....	212	12	11	...	189	...
Wheel Barrows.....	23	23	...	...	...	...
Window Shades.....	28	...	...	...	28	...
Wire, Barbed.....	102	...	...	...	102	...
“ Cable.....	57	...	19	26	12	...
“ Cloth.....	26	...	...	...	26	...
“ Fencing.....	34	...	...	...	34	...
“ Galvanized....	53	...	...	...	53	...
“ Insulated.....	28	...	...	...	28	...
“ Mfrs. of.....	10	...	...	...	10	...
“ N.O.S.....	512	38	...	10	464	...
“ Rods.....	191	145	46	...	...	...
“ Rope.....	58	48	...	5	5	...
Woodpulp.....	415	...	...	...	415	...
Woodenware.....	397	368	...	...	29	...
Yarn.....	30	30	...	...	...	...
Zinc.....	910	904	...	...	6	...
Totals.....	2,917,744	204,605	137,027	1,951,279	587,433	37,400

MISCELLANEOUS

	Total	RAIL		VESSEL		Other
		In	Out	In	Out	
Brick						
(Number)	159,000	159,000	.....	.....	.....	.....
Firewood						
(Cords)...	1,117	587	.....	530	.....	.....
Grain Doors						
(Cars)...	127	7	120	.....	.....	.....
Lumber						
Dressed						
(Feet)....	6,189,046	1,255,660	18,000	4,845,969	59,023	10,394
Lumber,						
Rough						
(Feet)....	70,358,423	33,247,277	108,000	31,697,351	332,950	4,972,845
Ogilvie F.M.						
(Cars)....	2,996	752	2,244	.....	.....	.....
St. John						
Freight						
(Cars)....	838	838	.....	.....	.....	.....
Railway Ties						
(Number)	14,737	14,737	.....	.....	.....	.....

Estimated Tonnage of Above

COMMODITY	TONS
Brick.....	398
Firewood.....	1,117
Grain Doors.....	1,524
Lumber, Dressed.....	11,604
Lumber, Rough.....	131,922
Ogilvie Cars.....	119,840
St. John Freight.....	25,140
Ties.....	737
<hr/>	
Total Miscellaneous.....	292,282
Total Domestic.....	2,917,744
<hr/>	
Grand Total.....	3,210,026

NOTE:—Of the total of 143,526 tons of lumber shown in the foregoing, there was exported 57,045 tons, which is shown in the Tonnage Summary as an addition to the Export Tonnage.

TONNAGE SUMMARY, 1930

	RAIL	VESSEL	OTHER	TOTAL
Domestic.....	341,632	2,538,712	37,400	2,917,744
" Brick, etc.....	213,156	69,782	9,344	292,282
Domestic Total.....	554,788	2,608,494	46,744	3,210,026

Distribution after Import

	RAIL	VESSEL	OTHER	TOTAL
Import.....	157,027	188,781	3,030,374	3,376,182

Carried before Export

	RAIL	VESSEL	OTHER	TOTAL
Export.....	661,739	2,071,900	310,877	3,044,516
Lumber exported.....				57,045
Export Total.....				3,101,561

Distribution of Tonnage

	RAIL	VESSEL	OTHER
Domestic.....	554,788	2,608,494	46,744
Import.....	157,027	188,781	3,030,374
Export.....	661,739	2,071,900	310,877
	1,373,554	4,869,175	3,387,995

Total Tonnage all Sources

Import.....	3,376,182 tons
Export.....	3,101,561 "
Domestic.....	3,210,026 "
Grand Total.....	9,687,769 tons

STATEMENT OF COAL IMPORTS

Foreign Coal Imported Ex Vessel

British Anthracite.....	740,803 tons
Russian Anthracite.....	200,651 "
German Anthracite.....	12,857 "
Total Anthracite.....	954,311 tons
American Bituminous.....	86,420 tons
British Bituminous.....	45,115 "
Total Bituminous.....	131,535 tons
Anthracite.....	954,311 tons
Bituminous.....	131,535 "
Total Ex Vessel.....	1,085,846 tons

Other Coal Imports

Canadian Bituminous (ex Vessel from Nova Scotia).....	1,407,345 tons
British Anthracite (ex Rail from Saint John, N.B. in Winter season).....	60,151 "
American Bituminous (ex Rail).....	5,879 "
American Anthracite (ex Rail).....	4,265 "
	1,477,640 tons
Total Canadian.....	1,407,345 tons
Total Foreign ex Vessel.....	1,085,846 "
Total Foreign ex Rail.....	70,295 "
Grand Total.....	2,563,486 tons
Total Bituminous.....	1,544,759 tons
Total Anthracite.....	1,018,727 "
	2,563,486 tons

HARBOUR POLICE DEPARTMENT

The Harbour Commissioners' Police Force carried out its duties with usual efficiency during the year 1930. The force maintains day and night patrol from Windmill Point to Section 100, enforcing order and safeguarding life and property within the area of the Harbour.

During the season of navigation the force consisted of a Chief, three Captains, and fifty-six Constables. In the winter season thirty-eight Constables were employed.

During the year 166 arrests were made for various offences on the Harbour and on the Montreal Harbour Bridge.

Eleven deaths occurred on the Harbour during 1930. Sixty accident cases were given first aid by the Police Department.

Carters to the number of 9,217, loading and delivering merchandise at various points along the waterfront, were checked by the traffic constables.

Police supervision was maintained during the arrival and departure of passenger ships, control being exercised over taxicabs and other vehicles, license numbers noted, etc.

The motor car and two motor-cycles were in constant use during the year, and covered a total of 43,582 miles.

Twelve constables do duty daily on the Montreal Harbour Bridge. At the opening of the Bridge, and during the stay at St. Hubert Airport of the Dirigible R-100, it was found necessary to use extra men to regulate heavy traffic. Through the courtesy of Director of Police Langevin, city police were supplied to assist the Harbour officers on these special occasions. Two motor-cycles were purchased in May for use on the Bridge, and during the remainder of the year these machines covered a total of 22,980 miles. From the opening of the Bridge until the end of the year, seven hundred and seven drivers of automobiles crossing the Bridge were warned for speeding and other infractions of the traffic regulations.



PART OF THE COMMISSIONERS' POLICE DEPT.

COLD STORAGE WAREHOUSE

The year's operation at the Commissioners' warehouse and cold storage plant was conducted according to regular routine. The reputation which this Harbour utility has set up for careful and intelligent handling of perishable products, destined for shipment overseas and for local distribution, was maintained during 1930. The produce trade is familiar with the excellence of this refrigeration plant, and realize its favourable location, on the tracks of the Harbour railway, and within easy distance of the piers where the great trans-Atlantic lines have their sailings.

ENGINEERING DEPARTMENT

The main items of the year's program of new works were the continuation of last year's Wharf Construction and Reconstruction, the construction of one and lengthening of another Industrial Wharf and the construction of a Public Service Wharf.

In the building department, the activities were restricted to the starting on the extension of one Shed and the installation of a few Travelling Grain Loaders over existing sheds.

The following are the principal items of construction, reconstruction, repairs and maintenance undertaken during the year:—

Wharves

Continuation of Windmill Point Wharf Reconstruction.

Continuation of Upstream Side of King Edward Pier Reconstruction.

Continuation of Sections 33-34 Shore Wharf construction.

Continuation of Laurier Pier Reconstruction, Section 42.

Continuation of Sylvestre Oil Industrial Wharf construction, Section 105.

Reconstruction of the Downstream Side of King Edward Pier.

Extension to McColl-Frontenac Industrial Wharf, Section 99.

Construction of Industrial Wharf at Section 106 for the British American Oil Co.

Construction of a Wharf at Section 109, foot of Marien Street, Montreal East.

Buildings

Extension to Shed No. 9, King Edward Pier.

New offices in Shed No. 12.

Office divisions in old Molson's Warehouse (part of the Bridge right of way).

Water Mains and Sewers

Diversion of sewer at Elevator "B," Windmill Point.

Readjustment of sewer at King Edward Pier.

Extension of sewer outlet at Section 58.

Extension of sewer outlet at George V Street, Section 94.

Extension of Intake Pipes, Section 60.

Construction of Intake Well, Section 101.

Construction of 12" Water Mains, Sections 27-32.

Railway Construction

Provision of new tracks at Sections 32-33.

Provision of new tracks at Sections 54-58.

Dredging

Dredging crib seats for Wharf Construction.

Drilling, blasting and dredging in Bickerdike Basin and its approach.

Continuation of Section 58-61, new channel dredging work.

Dredging of part of Approach Channel to South Shore Airport.

Cleaning up of Windmill Point Basin and at other locations.

Sundries

Installation of five Travelling Grain Loaders.

Extension of second conveyor belts at outer end of Alexandra, King Edward and Jacques Cartier Piers.

Installation of Car Puller at Elevator No. 3 Annex.

General Maintenance and Repair Works.

NEW WHARVES

Continuation of Windmill Point Wharf

That portion of the fill directly behind the two reinforced concrete cribs which were sunk and finished during 1929 was completely filled after the foundation piers for the conveyor galleries had been erected. This work was completed early in the season.

Continuation of Reconstruction of Upstream Side, King Edward Pier

The work of reconstructing the Upstream Side of King Edward Pier started late in 1928 and carried out throughout the spring and fall of 1929 was completed during the season.

A wooden or pony crib, approximately 20 ft. in width, was built to close the gap between the new concrete cribs sunk last year and the old wooden or timber crib which used to form the outer end of the pier as originally built. This crib was constructed immediately behind the last four steel caissons to prevent them from being overloaded. Thus, that portion of the scheme involving the sinking of steel caissons and the construction of concrete cope wall over these cylinders, was

completely finished together with that portion of the gravity concrete wall over the three concrete cribs sunk in 1929.

The total new cope line measurement of this reconstructed pier is 1388.75 lineal feet, 374.25 lineal feet of which were completed during the season of navigation.

Continuation of Shore Wharf, Sections 33-34

No further extension was carried out to this shore wharf during the course of this season.

The anchorage system, however, comprising tie rods and "dead" men or concrete anchor blocks, was completed with the exception of a few tie rods located at the extreme downstream end of the last concrete crib, which could not be extended for lack of fill. These rods and corresponding anchor blocks will be laid and constructed whenever the extension of this shore wharf is continued.

Approximately half the area behind the fourth sawtooth was backfilled to cope elevation 119. The remaining portion, as well as the area behind the last two cribs of the fifth sawtooth, was filled to Elevation 103.

Continuation of Reconstruction of Laurier Pier, Section 42

The adopted plan for the reconstruction of this pier, which consists in sinking a series of permanent concrete cribs around the old timber pier, as described in last year's Annual Report, was continued during the season of 1930.

One crib 112' long by 42' wide, sunk in 37 ft. of water, and one crib 112' long by 42' wide, sunk in 35.25 ft. of water, representing the fifth and sixth cribs respectively, sunk on the west or upstream side of the pier.

All the interspaces of the six cribs sunk in this extension were completed this year.

The preparation of the seat for the first crib sunk this year at the outer end of the new extension required special treatment.

The previous adjoining crib sunk last year to a depth of 36 ft. prevented the dredging of the new seat to a much greater depth. The bed of the river, however, over a portion of the seat fell away from a depth of 37 ft. to almost 44.5 ft., thus necessitating the building instead of dredging this seat to an even depth of 37 ft.

The building up of this crib seat on account of the swift current prevailing in the vicinity of Laurier Pier was carried out with precast concrete blocks, bagged concrete, precast concrete piles laid horizontally and boulders. The whole seat was surfaced with bagged stone.

The crib at the inshore end was surfaced in the usual manner. The manoeuvring and sinking of the crib was somewhat hampered by the swiftness of the current.

Continuation of New Industrial Wharf at Section 105

The concrete quay wall superstructure over the 107 ft. concrete crib, sunk in 1929, was raised and completed with bollards, mooring rings provided to Elevation 109 during the course of the season.

The mole connecting this new industrial wharf with the mainland was practically completed during 1930. Only a few scows of rock, which can only be dumped at high water in the spring, are required to close the gap between the mainland and the inshore end of the mole.

The Sylvestre Oil Co. have, however, laid pipe lines from their storage tanks located on the north side of Notre Dame Street to the face of the wharf or ship's side.

Reconstruction of Downstream Side of King Edward Pier

In order to complete the entire reconstruction of King Edward Pier, it was decided to call tenders for the reconstruc-

tion of the Downstream Side of the Pier and the contract for this work was awarded to the Foundation Co. on or about November 4th. These contractors started work upon this contract early in November.

The reconstruction of the Downstream Side is being carried out along the same lines as those of the Upstream Side. It embodies the sinking of a series of 7 ft. dia. open steel caissons to rock bottom along the existing wharf face, which after having reached the rock and been emptied of all loose material, are filled with a compact concrete, convenient reinforcing steel bars having been previously installed. The cylinders are secured at the bottom by means of heavy steel dowels, driven about 4' 6" into the rock. At the top they are anchored back into the pier structure by heavy rods and concrete "dead men."

A reinforced concrete cope wall 6' deep and 8' wide caps the cylinders, to which it is strongly tied.

The finished cope wall elevation is only a few inches lower than the main floor of the shed, thus doing away with the necessity of erecting platforms as was done previously outside of the shed. A gap between the cope and the shed is covered by a substantial and strongly reinforced concrete floor and broken stones were deposited between the face of the old wooden cribs and the cylinders.

Approximately 30% of this work was completed by the end of the year and it is expected that the entire reconstruction will be completed early in April, 1931.

Construction of New Extension to Industrial Wharf at Section 99.

The Industrial Wharf of the McColl-Frontenac Oil Co. was extended in a downstream direction by a total cope length of 224.5 lin. ft., represented by two concrete cribs and the interspace between the two new cribs and the one between the new extension and the old or original wharf.

One crib 112 ft. long, 42 ft. wide, in 31 ft. of water, being the first crib sunk in the new extension.

One crib 107 ft. long, 42 ft. wide, in 31 ft. of water, being the second crib sunk.

The concrete superstructure over this new extension was raised to cope Elevation 109, with bollards, ladders, drains, and mooring rings provided.

This concrete superstructure was built, not only on the face of this new extension, but along the full width of the crib at the outer or downstream end, as well as along the back of the two new cribs, thus providing an inside accommodation for light draught vessels, which can be berthed inside or at the back of this new wharf.

Construction of New Industrial Wharf at Section 106

The work of constructing a single crib concrete wharf for the British American Oil Co. was started and finished during the course of the navigation season.

One crib 107 ft. long, 42 ft. wide, in 32.33 ft. of water, was sunk and filled.

The concrete quay wall superstructure was built to Elevation 109.00, including bollards, mooring rings, ladders, and drains.

The distance from the line of the face of the new wharf to the shore is approximately 550 ft. With the exception of approximately 60 ft. at the back of the crib and about the same length at the shore end, the mole or embankment connecting this wharf with the mainland was built during the season, thus permitting the British American Oil Co. to establish communication between their storage tanks and the wharf.

Construction of New Deep Water Wharf, Montreal East

Following representations made to the Commissioners as to the necessity for providing adequate shipping facilities for large and small industries already located or to be located in the district, the Commissioners authorized the construction of a wharf at Section 109, at the foot of Marien Street, Montreal East.

The Marine Department undertakes to dredge the approach channel for 30 ft. depth at low water stage. The wharf is designed for an ultimate berthing depth of 35 ft.

One crib 112 ft. long by 42 ft. wide, in 36.53 ft. of water, being the first crib sunk.

One crib 107 ft. long by 42 ft. wide, in 36.51 ft. of water, being the second crib sunk.

One crib 112 ft. long by 42 ft. wide, in 36.52 ft. of water, being the third crib sunk.

The concrete quay wall superstructure over these three cribs for a total length of 336.83 ft. was raised to cope Elevation 111.38, with bollards, ladders, mooring rings, drains and tie rods provided.

The face line of this wharf is approximately 275 ft. beyond the old line of the Montreal East wharf, or some 600 ft. from the shore or mainland. A mole or embankment connecting this wharf and the old existing mole, between the original shore and the old Montreal East wharf for a width of about 85 ft. at the water line, is about 75% completed.

The filling behind the new gravity wall for the full length and width of the concrete crib was completed to cope Elevation 111.38.

The original bed of the river at the site of the mole varied in depth from 36 ft. in rear of the crib to nothing at the shore line, averaging approximately 20 ft.

RECAPITULATION OF WHARF CONSTRUCTION

Concrete Cribs Sunk to Low Water Level:

	No.	Length on Cope Line Lin. ft.	Total Lin. ft.
Laurier Pier.....	3	229'0"	
Montreal East Wharf.....	3	336'10"	
		<hr/>	565'10"

Concrete Crib Sunk to Elevation 104:

McColl-Frontenac Oil Wharf, Sec. 99.....	2	224'7"	
British American Oil Wharf, Sec. 106.....	1	107'0"	
		<hr/>	331'7"

Quay Wall completed to Cope Elevation 109:

McColl-Frontenac Wharf, Sec. 99.....		224'7"	
Sylvestre Oil Wharf, Sec. 105.		107'0"	
British American Oil Wharf, Sec. 106.....		107'0"	
		<hr/>	547'7"

Quay Wall completed to Elevation 111.40:

Montreal East Wharf.....	336'10"	336'10"
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The extent of the Wharves and Piers at the end of the season of 1930 is as follows:—

30 ft. depth and over, at

O.L.W.....	35,591 lin. ft. or 6.7407 miles	
25 ft. to 30 ft. depth.....	15,203 do	2.8793 do

Total deep draught...	50,794 do	9.6200 do
20 ft. depth and under.....	1,824 do	0.3454 do

Total Wharfage end of 1930..	52,618 do	9.9654 do
Total Wharfage end of 1929..	51,947 do	9.8383 do

Increase in 1930.....	671 do	0.1271 do
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BUILDINGS

Extension to Shed No. 9

Upon the completion of the Reconstruction of the Upstream side of King Edward Pier, tenders were asked for the foundations of the extension to Shed No. 9. This extension is 240 ft. long and 90 ft. wide. The construction is of the standard two-deck type of shed, with a double belt conveyor gallery.

The piling contract was awarded to the Canadian Vibro Pile Co. Ltd., who started work on December 9th and by the end of the year had driven 88 piles, representing approximately 4,550 lin. ft. of piling.

The pile used is a 17" reinforced concrete pile, cast in place.

It is expected that the piling contract will be completed early in January and the construction of the footings, curtain walls and shed superstructure will proceed with despatch, as the extension of this shed must be completed for the opening of navigation 1931.

New Offices, Shed No. 12

New offices for the staff of the Canadian National Steamships were constructed on the upper floor and along the railway side of Shed No. 12.

Eleven offices and two toilet rooms over a floor area of approximately 2,500 sq. ft. were erected. The construction consisted of 8" brick wall, metal roofing, lined with plaster and hardwood floor.

The heating system for these offices consists of a low pressure boiler installed on the lower floor in a 12 x 16 ft. fireproof brick construction with metal roofing.

New Offices, Molson's Warehouse

A portion of the old Molson's Warehouse on Notre Dame Street East was repaired for rental purposes as a warehouse and leased to the P. N. Soden Co.



HARBOUR COMMISSIONERS' COLD STORAGE WAREHOUSE

Offices, toilet rooms, covering a floor space of approximately 1,680 sq. ft., were built to meet the requirements of the new tenant.

A 10 h.p. 125 lbs. boiler was installed in a brick boiler room in the cellar of this building and is used both for industrial purposes and as a low-pressure heating system for the newly constructed offices.

SEWERS, INTAKE PIPES AND WATER MAINS

Sewer at Elevator "B"

Due to the construction of the new concrete wharf opposite Elevator "B" at Windmill Point, the sewerage and drainage system from and around Elevator "B" had to be reconstructed to meet the new conditions. A new 9" tile pipe sewer, 123 ft. long, was tapped and laid from the old system at Elevator "B" and extended to and through the face of the new wharf.

Sewer, King Edward Pier

Due to the reconstruction of the upstream side of King Edward Pier, the main 15" sewer along this pier had to be rebuilt for a distance of 119 lin. ft. One reinforced concrete manhole had to be added to the system and a new outlet provided through the new wharf as reconstructed.

Lot No. 14 Sewer

The City Sewer, known as Lot No. 14, which exits into the river at the downstream end of the new Coal Docks at Sections 56-58, has to be extended before the construction of this wharf can be continued in a northerly or downstream direction.

An inspection showed that the old sewer from the outlet for a distance of approximately 75 ft. inshore was practically packed or blocked. The pipe was cleared by a diver until a clear flow was obtained and the sewer extended by 48 lin. ft.

The extension consists of a series of 4.5 ft. dia. round steel pipe, $\frac{1}{2}$ " thick and 8 ft. long, connected together by means of a specially designed locking device.

Twenty lengths of pipe were fabricated at the Harbour Shop and the placing of 6 of these was carried out by the Harbour forces to the satisfaction of the Engineer representing the City of Montreal.

George V Sewer, Montreal East

The City of Montreal East has a sewer which crosses the railway embankment and empties into the St. Lawrence at the foot of George V Street.

The outlet of this sewer was too close inshore to permit the strengthening or widening of the embankment to protect the railway against ice shoves and spring floods, until that portion of the sewer across and directly under the railway tracks and consisting of two 36" concrete pipes could be extended.

A special steel chamber, irregular in shape, was built to connect at one end with these pipes, which were cast in a single block, and reducing in size to a 4'3" round steel pipe, $\frac{3}{8}$ " thick. To the other end of this special or funnel piece, approximately 6 ft. long, was connected a 24 ft. length of 4 ft. 3 ins. round steel pipe and the railway embankment was widened correspondingly.

Another length of 24 ft., also fabricated at the Harbour Shop, could not be installed this year and will be laid at high water early next spring.

Extension of Intake Pipes, Section 60

The two 12" intake pipes of the Montreal Locomotive Works had to be extended for a length of 42 ft. each, on account of the widening of the Railway Embankment opposite this company's property.

It was anticipated that the present 12" intake pipes would not meet future requirements and for this reason the size of the pipes over the new extension was increased from 12" to 16" in diameter.

Intake Well, Section 101

The water consumption of the Imperial Oil Co. has been increasing yearly and the size of the old water intake well, situated in the front face crib pockets of the wharf, could no longer meet the company's water requirements.

A new intake well 18 ft. long by 8 ft. wide, adjoining and connecting with the original one, was built inside two adjoining crib pockets which were emptied to 7 ft. below low water. The walls of the crib pockets were then extended with 12" x 12" timber up to cope elevation. A floor was laid on the bottom of the well and the top closed in by 12" x 12" timber resting on the walls of the chamber and acting as a removable cover.

Construction of 12" Water Main, Sections 27-32

The 12" water main, which is laid along the water front from Berri St. to Papineau Ave., and is fed at these two points by the City of Montreal, was extended in an easterly direction to almost the west side of the Poupart St. Ramp.

At Delorimier St. a connection was made between the water intake pipe from the City of Montreal, which was built last year, and the new extension of this water main.

Thus the water belt was extended from Papineau to Poupart St., a distance of approximately 2,640 lin. ft., comprising five hydrants, three water chambers, housing three shut-off valves.

PAVING

No new lanes of traffic were paved during the year, but approximately 17,575 sq. yds. of paving were relaid along the roadways and in between the railway tracks during the season.

RAILWAY CONSTRUCTION

Tracks Alongside New Wharf, Sections 32-33

The extension of railway tracks along the face of the new sawtooth wharf, Sections 32-33, amounted to approximately 600 lin. ft. and was carried out by the usual construction forces.

Tracks Sections 54-56

An extension of approximately 800 lin. ft. was added to the railway tracks at Section 54 in an easterly direction from No. 1 track and connecting same with the water front tracks along the New Coal Dock, Sections 56-58.

The construction of this spur necessitated the demolishing of one building used as a shop by Canadian Vickers, the clearing of approximately 450 ft. by 40 ft., the ballasting, grading and drainage of this new siding as well as the replacement of approximately 400 lin. ft. of fence along the Canadian Vickers' plant and the construction of a 50 ft. trestle to span the gap left open as an outlet for the Molson's Creek Sewer between the end of Canadian Vickers' wharf and the New Coal Dock.

Tracks on New Coal Dock, Sections 56-58

Two new tracks connecting together at one end, parallel and alongside the waterfront of the New Coal Dock, were laid during the season, amounting to 1,660 lin. ft. of single track.

A third track amounting to 960 lin. ft. was laid along the centre of this pier and parallel to the waterfront tracks.

A spur 505 ft. long, connecting No. 1 track with the centre track on this pier, was also built early this spring.

In addition to the above items, the usual track maintenance from Sections 12 to 101, including the replacement of rails, turnouts, switches, cross ties, etc., was carried out throughout the season by the railway section gangs.

The mileage of the Harbour Commissioners' Railway was increased during the season by 4,525 lin. ft. or .857 mile.

SUNDRY ITEMS OF NEW WORK

Conveyor System

One additional conveyor belt was installed in each of the following galleries: 5, 6, 9, 10 and 15 and placed in service at the opening of the navigation season, thus completing the double belt system to the end of Alexander, King Edward and Jacques Cartier Piers.

Gallery 4 at Elevator "B" was extended to connect up with Tower "C," making a continuous run of gallery of some 2,452 ft. in length alongside this wharf.

Four new belts were installed between Towers "B" and "C," two running east and two running west, making connection with the belts in galleries 2, 3, 5 and 6.

Travelling Grain Loaders

Five travelling grain loading machines were installed to serve berths 2, 3, 4, 5, 6 in order to provide means for quick loading of grain to high ships, particularly during the period of high water. These machines, which were fabricated in the Commissioners' shops, and the steel supports are similar in all respects to those installed in 1929 on berths 7 and 9. All were ready for operation at the opening of the navigation season.

Car Puller, Elevator No. 3 Annex

The car puller, the foundation of which was laid in the fall of 1929, was completed and placed in commission. This machine was built in the Commissioners' shops.

DREDGING

The operations of the season of 1930 include the dredging of the sites, the preparation of seats and assistance in the sinking of the eight cribs at the different localities enumerated hereinbefore.

The Commissioners' equipment also did the filling of the cribs sunk at King Edward Pier, Laurier Pier and in the eastern end of the Harbour, as well as the backfilling of these units, together with the making of the moles connecting the structures to the shore.

Bickerdike Basin

This Basin was dredged for a width of 80 ft. alongside the cribwork, for its total length of approximately 1,300 lin. ft., and three cuts, 40 ft. wide each and 400 ft. long, were made so as to widen the Basin on the opposite side, all to 30 ft. depth.

The entrance to the Basin was cleaned out of approximately 250 submerged logs and dredged down to 30 ft. for a length of 1,500 ft., 150 ft. wide.

New Channel, Sections 58-61

The work of dredging this channel was carried on in conformity with the new lines laid down as a result of changing the line of the proposed new wharf from Sections 58 to 61. This change caused a considerable amount of extra dredging. It was also found that there was a considerable amount of deposit in the easterly portion of the channel which had been dredged in previous years. This deposit spread over an area about 400 ft. in length and for the full width of the channel.

This channel is now completed down to the full depth of 30 ft. except for one or two isolated spots which are of no moment. The channel has been tested and found clear to 28 ft. at low water. This conforms to the minimum depth of the channel between Longue Pointe and Racine Pier.

Dredging of Part of Approach Channel to Longueuil Airport

On behalf of the Department of Marine, the Commissioners started the work of dredging a shallow approach channel from the main Ship Channel through a shoal off the upstream end

of Ile Verte. The total length of the proposed channel is approximately 1,800 lin. ft. The Commissioners completed the dredging of 1,500 lin. ft. of the channel 100 ft. wide and 12 ft. deep at low water level of 93 H.D. The quantity of material removed amounted to 36,350 cu. yds.

At that point the Department of Marine took the undertaking away from the Commissioners and proceeded with the balance of the work.

Maintenance Dredging

A small amount of maintenance dredging was done in the Windmill Point Basin, about 1,000 cu. yds. of material being removed.

At Sections 5 and 6, an area of 800 ft. in length and 76 ft. wide was dredged over and subsequently tested over and found clear to the advertised depth of 25 ft. at low water.

At Sections 7, 8 and 9, conditions were found to be quite bad and two areas of 500 ft. by 120 ft. and 500 ft. by 40 ft. were cleaned up, tested and found clear.

Considerable silting was found to have taken place in the Main Channel, Sections 15, 16 and 17, and this area, of about 1,000 ft. in length and of varying widths, was cleared up during the season, tested and found clear.

At Sections 57-58, an accumulation of material was found about 100 ft. from the face of the new coal wharf, the area being about 800 ft. by 100 ft., and varying in height from one to four feet. This area was cleaned, tested and found clear.

At Racine Pier only half a shift was required to clean up the berth.

Canadian Vickers' Dry Dock Basin

In conformity with our usual practice, a periodical sounding was made of this basin, and as a result a start was made on the cleaning up of the estimated area of 14,166 square yards

to be done, but as the Harbour dredges can only work to an extreme depth of 50 ft., which is the depth required in this basin, only a small portion of the area to be cleaned up could be completed before the fall rise of the water, viz.—about 1,900 square yards. It is expected that this work will be proceeded with as soon as the water recedes to the 30 ft. level next season.

Drilling and Blasting

The Drill Boat was engaged during most of the season in the Entrance to the Inland Basin and on a small area in the Basin proper.

The vessel was also used to do some test boring at King Edward Pier and in Windmill Point Basin.

Testing and Sweeping

During the season, a number of areas and channels were swept over, and in this manner a number of shoals have been located and a general check kept on the bed of the river.

The following are the quantities of dredging and filling for the season:—

	Cu. Yds.	Cu. Yds.
Dredging:	(Scow)	(Scow)
Rock:—Inland Basin.....		121,200
Other Material:		
Inland Basin.....	44,200	
Sections 4, 5W, 6W and 8, Maintenance.	11,600	
Section 15, 16 and 17, Maintenance.....	18,250	
Laurier Pier, crib seats.....	3,700	
Canadian Vickers' Dry Dock Basin....	3,100	
Channel, Sections 58-61.....	99,250	
Sections 57-58, Maintenance.....	13,150	
Racine Pier, Maintenance.....	250	
Channel to Fairchild Airport, Longueuil.	36,350	

	Cu. Yds. (Scow)	Cu. Yds. (Scow)
McColl-Frontenac Wharf, crib seats....	5,850	
British American Oil Wharf, crib seats. .	1,850	
Montreal East Wharf, crib seats.....	11,500	
	<hr/>	249,050
Total from H.C.M. Dredges.		370,250
Material from Government Dredges, Ballast, etc.....		70,250
		<hr/>
Total Material to Fill.....		440,500

Filling:

Rock: (By Derrick)

Bickerdike Pier.....	6,450	
King Edward Pier.....	28,425	
Section 34.....	17,375	
Laurier Pier.....	1,850	
Railway Embankment, Sections 59-61..	17,050	
McColl-Frontenac Wharf, Section 99...	4,850	
Sylvestre Oil Wharf, Section 105.....	9,550	
British American Oil Wharf, Section 106.	17,050	
Montreal East Wharf, Section 110.....	18,150	
Guard Pier.....	450	
	<hr/>	121,200

Other material: (By Derrick)

Bickerdike Pier.....	12,600	
King Edward Pier.....	11,725	
Section 34.....	10,475	
Laurier Pier.....	24,400	
Railway Embankment, Section 59-61...	93,000	
McColl-Frontenac Wharf, Section 99....	12,300	
Sylvestre Oil Wharf, Section 105.....	11,650	
British American Oil Wharf, Section 106.	28,625	
Montreal East Wharf, Section 110.....	93,425	
Guard Pier.....	600	
Canal Entrance, Sections 11-12.....	250	
	<hr/>	299,050

	Cu. Yds. (Scow)	Cu. Yds. (Scow)
Other Material: (By Dumpers)		
Section 5.	750	
do 11, 12 and 15.	13,300	
do 16 and 17.	800	
do 6N, 15S, 16S and 17S.	4,200	
Entrance to Bickerdike Basin.	1,200	
	<hr/>	20,250
Total Material to Fill.		440,500
Sundry Items of Filling:		
Wharf Refuse: (By Derrick)		
To spoil bank.		1,025

	Cu. Yds. (Estimated)
Earth, Cinders, etc., from City Contractors: (By Teams)	
Bickerdike Pier.	24,800
Dominion Coal Wharf.	40
Elevator "B".	18,550
Windmill Point.	200
Shed No. 9.	17,500
Sections 28 and 29.	2,000
do 31 and 32.	5,150
do 32 and 33.	1,500
do 34 and 35.	32,800
Flume near Dominion Coal Co.	200
Section 48.	120
	<hr/>
Total Fill by Team.	102,860

ELECTRICAL BRANCH

Power and Operation

The Harbour Commissioners purchased, under contract, Electric Power from the Montreal Light, Heat & Power Consol., for their requirements, as follows:—

	H.P. Hours
Cold Storage Warehouse.....	4,025,058
Elevator No. 1 and Conveyors.....	2,194,602
Elevator No. 2 and Conveyors.....	968,074
Elevator No. 3 and Conveyors.....	1,364,476
Elevator "B" and Conveyors.....	1,188,687
Freight Hoists.....	37,527
Harbour Lighting.....	900,191
Harbour Yard.....	399,572
Transit Shed Lighting.....	544,875
Railways (Electric).....	3,675,467
Elevator Lighting.....	520,864
Electric Heating.....	639,308
Synchronous Motor.....	171,669
Montreal Harbour Bridge Lighting.....	413,415
Miscellaneous.....	464,949

Lighting of Wharves

The lighting of the high and low level wharves was carried on by the Harbour Commissioners' Electrical Department, the power being supplied through the several sub-stations. The number of lamps in service varied from time to time during the year, reaching a maximum of 328 units, these being distributed as follows:

Series Circuit Lamps

No. 1	59	Windmill Point and Bickerdike Pier.
No. 2	39	McGill Street to Elevator No. 1.
No. 3	50	Elevator No. 1 to Section No. 19
No. 4	42	Section No. 19 to Section No. 22.
No. 5	51	Section No. 22 to Section No. 40.
No. 6	59	Section No. 40 to Sutherland Pier.
Multiple Circuit	28	Victoria Pier, Victor and Berri Subways
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Total	328	

Lighting of Montreal Harbour Bridge

The lighting of the bridge was also carried on by the Commissioners' Electrical Department, the power being supplied through their No. 4 Sub-station at Beaudry Street.

Series Circuit Lamps

No. 7	46	West side of Bridge (full length)	
No. 8	47	East side of Bridge	do
No. 9	43	West side of Bridge	do
No. 10	42	East side of Bridge	do
<hr/>			
Total	178		

Power Equipment

Some re-arrangement of equipment in the sub-stations was made to meet the requirements of operation during the season and a number of power meters were installed on the distribution lines to facilitate the checking up of outgoing services.

Harbour Bridge Power Circuits

Two power circuits were installed on the Montreal Harbour Bridge for any requirements on St. Helen's Island and Pavilion which may develop at a later date. The power lines are connected to No. 4 Sub-station, which is the nearest station to the Bridge, and are carried on the Harbour transmission poles to Pier No. 25 of the Bridge structure. They are carried up the pier and on to the steel structure. At the Pavilion end the cables are terminated by cable potheads until such time as there is a demand for power when a small transformer room will be erected in the basement of the building for handling this service.

Transmission Lines and Service Connections

Some additions were made to the transmission lines, notably the new lines to Sections 58 and 60 for the Coal Com-

panies, and a number of new services for these companies were constructed to take care of their demands for electric light and power throughout the season.

Overhead Trolley Lines for Shiploaders

Overhead trolley lines were erected on the top of the grain conveyor galleries Nos. 2, 3, 4, 5 and 6 for the operation of shiploaders at these berths similar to those that were installed at berths 7 and 9.

A 10 h.p. reversible motor operates the elevating and travelling mechanism of these grain loaders and a 5 h.p. motor operates the air compressor equipment in each loader.

General Lighting

The lighting in some parts of the plant, which was somewhat out of date, was remodelled and brought up to a higher standard both in efficiency and illumination. Due to developments between Sections 56 to 58 the general wharf lighting was extended from Section 42. The size and general characteristics of the lighting units are the same as have been in use in other parts of the Harbour and have been in successful operation for a number of years.

Bridge Lighting

The general lighting of the Montreal Harbour Bridge was put into operation during the early part of May last and has been in regular operation every night since. The lighting embraces four series circuits, two on the upstream side and two on the downstream side of the Bridge, extending from north to south, including the north and south approaches, Pavilion deck and ramp. The lighting units are very similar to those on the Harbour front except that they are mounted somewhat lower and are closer together with a smaller capacity lamp in the fixture. The total number of lighting units from end to end is 178 of 1,000 c.p. each. To supply current of the

proper strength to these units, there was installed in the sub-stations four regulators of 50 K.W. capacity each, along with the necessary control equipment, switches and instruments for the complete operation of the lighting.

Telephone System

A private automatic telephone system was installed on the Harbour Bridge for the convenience of the Harbour Police Department in handling traffic.

This telephone system extends over the entire length of the Bridge proper as well as the Toll Houses at each approach and on the Pavilion. The telephone stations are located at important positions along the way and have been of great use to the police in regulating the vehicular traffic passing over the Bridge.

The following is a Comparative Statement of Freight Hoists, supplied with Power through the several sub-stations during the season of 1930:—

Hoist	Year	Total Teams Carried	No. of Days Operated	Started	Stopped
1	1928	12,113	208	Apr. 18	Dec. 15
	1929	13,042	202	16	14
	1930	9,602	202	21	13
2	1928	10,218	208	Apr. 16	Dec. 15
	1929	15,925	208	22	21
	1930	19,812	202	21	13
3	1928	23,375	208	Apr. 16	Dec. 15
	1929	18,147	196	30	21
	1930	15,171	203	21	13
4	1928	6,361	208	Apr. 16	Dec. 15
	1929	5,770	202	22	14
	1930	5,060	196	28	13

Hoist	Year	Total Teams Carried	No. of Days Operated	Started	Stopped
5	1928	8,132	208	Apr. 16	Dec. 15
	1929	7,991	203	22	14
	1930	7,127	201	21	13
6	1928	8,738	208	Apr. 16	Dec. 15
	1929	7,347	202	22	14
	1930	6,735	196	21	6
7	1928	8,198	208	Apr. 16	Dec. 15
	1929	7,530	208	22	21
	1930	4,022	196	21	6
8	1928	12,955	211	Apr. 16	Dec. 19
	1929	14,863	208	22	21
	1930	16,275	211	21	24
9	1928	14,735	208	Apr. 16	Dec. 15
	1929	15,518	208	19	19
	1930	14,862	203	21	13

MAINTENANCE

Wharves

The Maintenance Force, in addition to ordinary patching of wharves, examination of sewer outlets, examination of crib bottoms for scourings and attention where necessary, taking care of temporary pile cluster landings and floating platforms used during the season by the different industrial companies in the Harbour, as well as the Elevator No. 2 Jetty bridges and stairs, and the section signs, carried out the following important work:—

Driving of Piles

40 piles at Section 61, for Shell Oil Co.

38 piles for fender cluster and 14 piles to continue the mole approach for the Sylvestre Oil Wharf at Section 106.

42 piles to form mole platform to carry pipe line, and 4 fender clusters of 9 piles each, for the British American Oil Co. at Section 107.

2 piles to carry two 16'' steel pipes which were added to existing intake of Montreal Locomotive Works, Section 60.

Replaced two clusters of piles for the British American Oil Co., Section 107.

2 piles between crib and mole, to enable British American Oil Co. to operate till end of the season.

Wharves were repaired as follows

Repaired 2 sections of wharf at Section 11N, one Section 110' x 6' x 10' and the other 40' x 10' x 10', at the end of Century Coal Co. dock.

Repaired stairs from the high to the low level at foot of the Canal.

Repaired south side of south entrance to Lachine Canal, 100 ft. long, 6 ft. high and 12 ft. deep; also the north side of south entrance, 80 ft. long, 5 ft. high and 12 ft. wide.

Replaced 40 pieces of 3'' x 10'' x 12' planking at Alexandra Pier, Sheds 3 and 5; also 12 pieces 3'' x 12'' x 12' planking opposite shanty at foot of McGill St.

Repaired the face of King Edward Pier 100' x 5' x 12' in one section, and 75' x 3' x 12' in the inner section of Shed 10, and renewed 25 pieces of 3'' x 12'' x 12' planking, and one section 50' x 3' x 12' on Shed 8 and renewed 50 pieces of 3'' x 12'' x 12' planking.

Repaired section 30' x 4' x 12' wide at Shed 15 and replaced 20 pieces 3'' x 10'' x 12' plank.

Finished one section 125' x 10' x 10' on Alexandra Pier.

Rebuilt 185' x 10' x 12' of cribwork on the south side of the north entrance to Lachine Canal.

Miscellaneous Work

Moved the landing stage for the Immigration Department from its location near the foot of St. Just Street to a point about 100 ft. lower down, and at the same time increased the flotation of this stage, and repaired the stairs and gangway leading thereto.

Replaced three moorings at entrance to Lachine Canal, south side, and 2 moorings on the north side.

Repaired water intake pipe at the St. Ann Cotton Mill, which had been damaged by the ice during the spring shove.

Made and placed a triangular fender 82 ft. long for the corner of the dock at Sheds 2 and 3 to protect the overhead connecting bridge.

Made and placed two fenders 2' x 3' x 15' long at Shed 15.

Cleaned out by diver the sump or intake well at the Power House, Section 23, and also the Harbour Yard sump, which was found in bad condition.

Placed 2 wooden mooring posts at Section 71.

Repaired 7 of the 100 ft. timber fenders on the face of the concrete wharf at Windmill Point Wharf, caused by ships dragging them when manoeuvring without tugs.

Placed 2 new mooring hooks at Section 11N for Century Coal Co., and also changed the bolts in 2 countersunk bollards at Shed 10.

Placed 4 oak fenders 14'' x 14'' x 12' long on the face of the concrete wharf for the Floating Crane.

Transit Sheds

The following are the most important items of work done by the Sheds Maintenance force during the season:—

The interior of upper floors of Sheds Nos. 4, 5, 6, 7, 9 and 16 received two coats of paint; also interior, lower floor of Shed No. 7.

The exterior of Sheds Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11, including metal sash of skylights; also steelwork of Sheds Nos. 24, 25, 26 and 27; cornice, doors on riverside and flashing, gutters and downspouts on rail side of Sheds Nos. 44, 45, 46 and 47; and metal sash of skylights on Sheds Nos. 12, 13, 14 and 15 received two coats of paint.

The upper and lower conveyor galleries running from Shed No. 11 to Elevator No. 2 were painted two coats.

The conveyor galleries over Sheds Nos. 2, 3 and 5 were painted two coats.

The sheeting of the side gallery, Elevator No. 2, was repaired and the hoppers and chutes were painted and stencilled.

The hoppers and chutes of the side gallery on the second floor of Elevator No. 1 were painted and those of the lower floor were cleaned.

All the hoppers and chutes on the ground floor, bin floor and scale floor were stencilled anew.

Approximately 2,000 ft. of flashing, 4,500 ft. of gutters and 450 ft. of downspouts were renewed on the transit sheds. 26 turnheads were also renewed in connection with alterations necessary to install Shiploaders.

The roofs of Sheds Nos. 4 and 6 were completely rebuilt during the season. The walls of 31 monitors or skylights were coated with plastic cement and their roofs completely rebuilt.

Twenty-five new steel sash were put into sliding doors, Shed No. 13, and steel altered and sheeting repaired for same.

The sliding device of 112 doors on the track side of Sheds Nos. 44, 45, 46 and 47 was altered to facilitate the movement of the doors and to render the shed water-tight. Forty-nine doors on the river side were also altered.

The usual maintenance of roofs, downspouts, gutters, etc., was carried out by the Maintenance forces during the season.

Plumbing

The laying of sewer and water main extensions, the equipment of lavatory rooms, the repair and renewal of the plumbing system, along the waterfront, including all buildings, transit sheds, grain elevators, owned by the Commissioners, were carried out by the usual plumbing force.

Roadways, Sheds, Water Service, etc.

The general cleaning and watering of the wharves, roadways and sheds was kept up during the season.

Water service to sheds and latrines was connected up by May 15th and kept in good order throughout the season. This service was discontinued early in December, except for Sheds 12 and 18, which were kept open during the winter.

Check water meters were installed in the sheds, elevators, electric stations, latrines, restaurants, etc., during the summer and gave good results.

All City water meters on the Harbour were checked up at the end of each month with the City Meter Inspector.

6,383,100 cu. ft. of fresh water (817 orders) was supplied to ships between Sections 4 and 46.

All latrines and drains were flushed out with the fire hose at regular intervals during the season.

The electric hoists were also flushed out with the fire hose every week end.

The Quick Acting Gates in the Flood Protection Wall were kept in good working order at all times, and the steps placed at Sections 12, 14, 15, 18 and 19 for the purpose of allowing pedestrians on and off the wharves when these gates are closed, during the winter season only, were kept free of snow and ice.

The usual force of watchmen, etc., was employed to protect the property of the Commissioners, to guard the public from accident and to regulate the Harbour dumping grounds.

Life Saving Equipment

The usual precautions were taken to facilitate the saving of life and the prevention of accidents by the maintenance of railings and the distribution of ropes, gaffs and life preservers at frequent intervals along the waterfront, which proved their value on a number of occasions during the season.

Fire Prevention

All hydrants and fire equipment were inspected daily and kept in readiness for service.

All fire extinguishers were recharged on May 1st and kept in operating condition, and some of them were used on a number of occasions, but no damage to Harbour property worth reporting was done.

The principal items of equipment attended to during the year were:—

Elevator B

Feed to Leg 14 was changed to front; chain drives were installed at Legs 6, 8 and 10, displacing the old rope and pulley drives and increasing the capacity of the legs. The installation of speedier clean-up shovels started in 1929 was completed.

Elevator No. 1

Slope for feed loading on sides to boot tanks was altered so as to get faster feed in the Old House. Spacing of four car loading spouts was corrected and upper garner valves on scales 5, 6, 7 and 8 were remodelled. No. 8 rotary valve was fitted with ball bearings.

Elevator No. 2

Upper garner valves were inspected and repaired. There were no extensive alterations made in this elevator during the year.

Elevator No. 3

The installation of speedier clean-up shovels on Marine Towers, started in 1929, was completed. The work of resurfacing bin bottoms in the Annex was continued as conditions permitted.

Galleries

Considerable work was done in connection with new loaders on Sheds 7 and 9. Chain drives were installed on belts in Gallery No. 7. B belt in Gallery No. 7 was changed to chain drive. In the central section of the Conveyor System a start was made to replace babbit bearings with ball and roller bearings. This work will be continued as conditions permit.

Elevator and Conveyor Belt Replacements

Elevator No. 1:	One 36" x 4 ply x 1,000 ft.,	Gallery No. 5,
		May 27th.
	One 36" x 4 ply x 1,000 ft.,	Gallery No. 10,
		Sept. 23rd.
	One 35" x 7 ply x 444 ft.,	Lofter Leg No.7,
		August 27th.
	One 35" x 7 ply x 444 ft.,	Lofter Leg No.6,
		October 6th.
Elevator No. 2:	One 36" x 4 ply x 1,000 ft.,	Belt 6B, May
		12th.
	One 36" x 4 ply x 1,000 ft.,	Gallery No. 15,
		October 3rd.
	One 36" x 4 ply x 1,000 ft.,	Gallery No. 9,
		May 28th.
	One 36" x 4 ply x 800 ft.,	Gallery No. 14,
		October 8th.
Elevator B:	One 22" x 7 ply x 413 ft.,	Lofter Leg No.6,
		April 6th.
	One 22" x 7 ply x 413 ft.,	Lofter Leg No.8,
		April 6th.

Elevator B:	One 22" x 7 ply x 413 ft.,	Lofter Leg No. 10, April 6th.
	One 34" x 7 ply x 322 ft.,	Shipping Leg, April 12th.
Elevator No. 3:	One 36" x 4 ply x 127 ft.,	Tunnel convey- or Belt No. 2, August 9th.
	One 23½" x 7 ply x 175 ft.,	No. 3 Marine Leg, Sept. 27th.

Hoists

Twenty-five hoists were overhauled and their cables inspected. The lubricating systems on hoists 2, 3, 5 and 9 was changed from oil to grease.

Locomotive Cranes

The amount of coal handled by our cranes from ships was greater than the figures of last year. The distribution of working time is as follows:—

	1930	1929	1928	1927
On Coal.....	69.7%	45.6%	34.8%	57%
On Harbour Work.....	7.9%	21.2%	33.4%	30%
Miscellaneous Work.....	22.4%	33.2%	31.8%	13%

Cold Storage Plant Equipment

The refrigerating equipment in both the Warehouse and Power House continued to give satisfactory service throughout the year. The breakdown of Compressor No. 1 in May, 1930, did not affect the operation in the Warehouse. 1,938 100-lb. blocks of ice were made and delivered to the various Harbour works and fleet.

Harbour Yard Shops

From the beginning of the year to the opening of navigation, the shops were kept busy fabricating the five Shiploaders;

for the rest of the year the usual Harbour work was carried on. The total number of orders executed in these shops and their allocation is as follows:—

Elevator No. 1.....	145
Elevator No. 2.....	40
Elevator No. 3.....	43
Elevator B.....	50
Conveyor System.....	139
Electrical Department.....	279
Locomotive Cranes, Mixers, Dinky Locomotive, etc....	113
Guard Pier, Fleet and Shipyard.....	481
Traffic Department.....	339
General.....	998
<hr/>	
Total.....	2,627

A great variety of work was carried out in these shops in a satisfactory manner.

Floating Plant

The year opened with the following vessels on the Commissioners' shipways:—

Derrick No. 4.

Tug "Aberdeen" for hull and machinery repairs.

Derrick No. 6 arrived from Manseau Shipyard on the 9th May, the wooden hull having been replaced by one of steel in accordance with a contract awarded to this firm.

The rest of the floating plant was overhauled and made ready for the opening of navigation.

The tug "Sir Hugh Allan" was put in commission on April 9th.

75-Ton Floating Crane: Changing Ballast Method and Testing

A commencement was made on the scraping and painting of the inside of the hull and fitting of concrete block ballast to replace the existing stone ballast in this crane.

On December 9th, this crane was tested by lifting and swinging 154,000 lbs. at a radius of 51 feet.

FLOATING CRANE

The record of work done by the 75-ton Floating Crane is as follows:—

Number of working days.....	234	
Number of days worked.....	167	
Total number of lifts:		
Commercial.....	1,594	
Commissioners' service.....	85	
	————	1,679
Average weight of lifts:		
Commercial.....	10.7 tons	
Commissioners' Service.....	25	"
Greatest lift:		
Commercial.....	78	"
Commissioners' service.....	75	"
Greatest tonnage from single ship:		
SS "Valfiorita".....	737	"
Total weight lifted:		
Commercial.....	17,171	
Commissioners' service.....	2,111	
	————	19,382 tons
Total weight lifted during season 1929.....	18,409	"
Total number of lifts during season 1929.....	1,910	"

EMPLOYMENT IN THE HARBOUR OF MONTREAL

The following table shows the maximum and average number of workmen employed by the Harbour Commissioners

during the season of 1930, exclusive of men employed by the different contractors on Harbour construction work:—

	Maximum	Average
Elevator No. 1: Operation.....	36	33
Boat shovellers.....	34	27
Elevator No. 2: Operation.....	35	32
Car shovellers.....	8	7
Boat shovellers.....	30	20
Bagging.....	37	19
Elevator No. 3: Operation.....	43	38
Car dumper operation..	6	3
Boat shovellers.....	59	31
Elevator "B": Operation.....	35	33
Car shovellers.....	8	6
Boat shovellers.....	28	25
Elevator Repairs.....	110	79
Conveyor Galleries: Elevators 1 and 2...	50	48
Elevator 3.....	20	16
Elevator "B".....	12	11
Cold Storage Warehouse: Operation and Maintenance.....	39	31
Cold Storage Power House: Operation and Maintenance.....	12	10
Cold Storage Power House: Electrical..	13	13
Traffic Department.....	117	108
Round House: Machinists, etc.....	29	28
Harbour Yard Machine Shop: All trades.	94	88
Shipyards.....	43	39
Guard Pier: Maintenance and Repair men	49	41
Electrical Department.....	126	114
Maintenance of Transit Sheds.....	83	43
Construction: Wharves, tracks, etc.....	118	53
Maintenance of Harbour.....	270	211
Police Department.....	60	58
Elevator "B" Gallery Extension.....	44	28
Dredging Fleet: Crews of dredges, etc...	175	165
Montreal Harbour Bridge: Toll collectors	19	19
Fleet Watchmen.....	10	8

WATER LEVELS

The depth of water for navigation in the Montreal Harbour Ship Channel and on the Sill of Lower Lock, Lachine Canal, is given in the following table:—

	Depth on Old Lock Sill, Lachine Canal		Depth in Harbour Channel	
	Average 1921-30	Average 1930	Average 1929	Average 1930
May.....	19'11"	19'1"	38'5"	34'6"
June.....	17'8"	18'8"	34'10"	34'3"
July.....	16'2"	19'0"	33'8"	34'1"
August.....	15'2"	17'1"	31'10"	32'2"
September.....	14'4"	15'5"	31'0"	30'10"
October.....	14'6"	14'9"	30'11"	30'5"
November.....	14'10"	14'1"	31'0"	29'6"

AVERAGE DEPTH FOR EACH MONTH IN THE 30-FOOT CHANNEL AT SOREL
(30 Feet at Extreme Low Water of 1897)

Year	May	June	July	August	September	October	November	High	Low
1916.....	38' 9"	37' 2"	34' 0"	32' 5"	31' 7"	31' 9"	31' 10"	40' 0"	30" 9'
1917.....	36' 8"	36' 6"	34' 10"	33' 6"	32' 3"	32' 6"	33' 0"	38' 2"	31' 3"
1918.....	35' 1"	33' 0"	32' 10"	30' 11"	31' 4"	32' 6"	33' 10"	36' 11"	30' 3"
1919.....	38' 7"	35' 7"	32' 5"	31' 4"	31' 1"	31' 7"	32' 9"	39' 11"	30' 3"
1920.....	33' 7"	30' 10"	30' 4"	29' 9"	29' 4"	29' 4"	29' 4"	34' 8"	28' 3"
1921.....	34' 7"	31' 9"	30' 10"	31' 7"	29' 10"	30' 2"	30' 5"	37' 6"	30' 1"
1922.....	36' 0"	33' 9"	34' 2"	32' 2"	31' 2"	31' 3"	30' 11"	37' 8"	30' 1"
1923.....	38' 4"	34' 6"	32' 4"	31' 5"	31' 4"	30' 11"	30' 9"	39' 1"	30' 0"
1924.....	38' 7"	34' 5"	32' 5"	31' 10"	31' 11"	32' 3"	31' 3"	40' 0"	30' 1"
1925.....	35' 2"	33' 9"	32' 4"	31' 8"	30' 11"	31' 2"	31' 9"	36' 6"	30' 3"
1926.....	37' 4"	34' 6"	32' 10"	31' 7"	31' 1"	31' 3"	33' 2"	39' 6"	30' 6"
1927.....	34' 3"	33' 11"	33' 3"	32' 5"	31' 3"	31' 4"	34' 10"	37' 8"	30' 5"
1928.....	40' 3"	36' 6"	34' 0"	33' 0"	32' 8"	34' 0"	34' 2"	41' 7"	31' 7"
1929.....	39' 11"	35' 11"	34' 4"	32' 9"	32' 2"	32' 3"	32' 3"	41' 4"	31' 3"
1930	36' 4"	35' 6"	35' 1"	33' 2"	32' 9"	31' 8"	31' 0"	37' 4"	30' 3"

LIST OF HARBOUR COMMISSIONERS' FLOATING PLANT

Description of Vessel	Hull.			When built	Engines					Capacity of Bucket	Depth to which Dredge can work	Remarks		
	Length		Breadth		Kind of Engine	No. of cylind-ers	Dia. of cylin-ders	Length of stroke	Pres-sure of steam					
	ft.	in.											ft.	in.	ft.	in.
Dredges														
J. Kennedy (Boom Spoon).....	104	4	37	0	7	Aft. 6	1892	Horizontal non-condensing	{	2	16	18	lbs. 125	Steel Hull, Rblt. 1923-24
" " " ".....	104	0	36	2	11	0	1910						7 40	Steel Hull.
No. 6 " " " ".....	104	2	39	2	10	9	1912						7 40	Steel Hull.
Derricks														
No. 1 Clam shell	87	2	31	2	9	3	1899	Horizontal high pressure	{	2	12	14	140	Wooden hull, Rblt. 1925
" " " ".....	77	0	27	6	8	0	1900						125	Wooden hull. } Rebuilt
No. 4 " " " ".....	80	5	27	10	7	6	1892						125	Wooden hull. } 1923
No. 5 " " " ".....	80	1	27	10	7	6	1892	2	12	14	14	125	Wooden hull.	
No. 6 " " " ".....	80	1	27	10	7	5	1892					125	Steel hull, Rblt. 1930	
No. 8 " " " ".....	87	5	31	0	9	3	1915					140	Wooden hull, " 1915	
Tugs														
St. Peter (Fire Tug).....	74	8	16	1	8	6	1875	Vertical non-condensing	1	20	22	22	125	Wooden hull, Rblt. 1921
Aberdeen.....	79	3	18	3	9	0	1895	Vertical con-densing	{	1	16	32	140	Steel hull.
Robert Mackay.....	80	9	17	6	10	0	1899						1	16	32	24	140	Steel hull.
Sir Hugh Allan.....	130	0	26	6	15	0	1911	Vertical triple expansion condensing	{	2	16	25	180	Steel hull, twin screws.
John Young.....	91	8	22	0	9	0	1911						2	40	12	18	140	Steel hull, twin screws.
Passe-Partout.....	49	1	11	3	5	7	1912	Vertical condensing	{	2	24	10	110	Wooden hull, Rblt. 1925
David Seath.....	75	5	18	5	10	2	1915						1	9	13	22	140	Wooden hull.
Drilling and Blasting Boat.....	80	0	27	0	5	6	1895	Vertical high pressure	1	26			100	Upright boiler taken out and replaced by boiler of concrete machine. Three 5 in. steam drills Rebuilt 1923.

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